Columbia University

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PREFACE

The author desires to express grateful appreciation for the professional co-operation of individuals and groups of individuals who have made possible this study in class-room efficiency. First of all my acknowledgments are due to Dr. James E. Russell, Dean of Teachers College, through whose encouragement and aid the Department of Secondary Education was enabled to make the stenographic reports that serve as a basis for the investigations; also to Dr. Julius Sachs, Professor of Secondary Education, and to Dr. Frank McMurry, Professor of Elementary Education, whose guidance and advice have been invaluable throughout the progress of the work. I also acknowledge most gratefully the courtesy and true professional spirit manifested by the principals and teachers in the various schools selected for detailed observation of class-room practice.

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CONTENTS

PART I

THE SIGNIFICANCE OF A STUDY OF QUESTIONING

This report is a study of one small phase of class-room procedure—the use of the question. It is a critical study of class-room practice rather than the promulgation of a theory. The motive in its presentation is twofold: to turn the searchlight of inquiry upon some significant tendencies in our teaching, and to suggest opportunities for constructive work in a neglected field in the training and supervision of teachers.

That it is a neglected aspect of training is proved by the fact that so little has been written about questioning. There is not in educational literature sufficient bibliography on the subject to be formally recorded. Fitch's little pamphlet on the "Art of Questioning" deals with the technique of the craft of teaching, and Reinstein's "Die Frage im Unterricht"[1] is a brief treatise in the same vein with excellent suggestions regarding the use of analytic and developmental questions in foreign language work and mathematics. In our own country there have been only occasional chapters on the art of questioning in books of method.[2] The importance of the art and its constant application in teaching make this omission the more surprising. In view of these facts I trust that the investigations recorded in this study, and the deductions drawn therefrom may be considered in the light of pioneer work in this particular field of practice.

It seems to be very generally assumed that teachers know by a sort of intuition when to ask questions and how to ask them—that if the content of the lesson and the general plan of presentation have been adequately plotted, the questions will in some way adjust themselves to the needs of the moment. Teachers

[1] Reinstein, Die Frage im Unterricht, Leipzig, 1903.
[2] De Garmo, Interest and Education, Chapter XIV.
Betts, The Recitation, Chapter III.
Strayer, The Teaching Process, Chapter XI.

are rarely at a loss for questions—in fact it seems that the first consideration with many is ability to ask them rapidly. The situation as I have found it since I have been making a study of the subject, makes me appreciate the attitude of the youthful teacher of history who said with assurance upon accepting her first position, " Oh, I'm going to ask questions so fast that the pupils will have no chance to *think* of anything." It is a fact that teachers do use the question as a means to bridge gaps and kill time during a class hour, thus perverting its legitimate and valuable function as an educational agent.

The question and answer type of recitation, when rightly used, is more fruitful for the teaching process than any of these three recognized media of instruction, the topical recitation, the written lesson, or the lecture. The topical recitation is a method employed for repeating facts that are presented and systematized by someone else; the written lesson is a test of the facts a student possesses and, at best, his method of classifying them; the lecture is a " pouring in " process.

The question and answer recitation may become a conversation hour between teacher and pupils, a period of richest opportunity for true education, i.e., the *" leading out "* of what is in the mind of the pupil. It can be a time when the mind of the teacher comes into closest touch with the will and the emotions of his pupil, guiding and directing him towards standards of thought and action far beyond the ken of youth. It can be a time of richest opportunity for the teacher to ascertain just where to set his pupils adrift in thought life to do independent intellectual work in accordance with their ability, and so to grow in the power to think and to act for themselves. It can be the time for the teacher to discover the possible avenues of a pupil's own initiative and to give him the right impetus.

The use that a teacher makes of a recitation period reveals very clearly his aims and purposes in teaching. After all, it is what he actually *does* in the class room, rather than what he aims to do, that counts in the education of youth. If a teacher's ultimate aim is the " acquisition of knowledge," then it is reasonable to expect that his class work will reflect that aim and the tendency towards it will be manifest in the framing of his questions. I hardly need to add that not every question need bristle with " ultimate aim," but it is certainly true that if he possesses an honest purpose in his teaching, that purpose will be manifest in his intercourse with his pupils; it will give color, however faint it may be, to his questions. If his ultimate aim is "harmonious development of all the powers," then again it is reasonable to expect that his class work will reflect that aim, and it is right for us to seek traces of it in his questions. If his ultimate aim is "social efficiency," it is likewise true that his class work will reflect that aim. It is impossible to realize the ultimate aim unless the successive steps, or the immediate aims, point in the direction of the ultimate aim.

When a high school principal says that the aim of instruction in his school is to make his boys and girls good citizens, and in the same school the physics instructor says *his* aim in teaching physics is to get his pupils into college, and the history instructor says *his* aim is to *teach* history, it becomes a very interesting study to get down to the actual reactions of pupils and teachers in that school; to see just how the history teacher's practice fits his aim, and how the physics teacher fulfils his object, and how both of them, working for the unity of the school, approximate the standards set by the principal. Then when it chances that we find both physics and history teachers spending all their energies in quizzing, day after day, upon facts set forth in text-book lessons—in the "hearing" of predigested or partly digested facts—it is obvious that the man who says his aim in teaching is to get his pupils into college is probably the only one whose practice approximates his theory.

It seems a travesty upon the science of education to claim to make "good citizens" by the current class-room practice of hearing text-book lessons. When all is said and done the class rooms are the units of the school, and the practices of the class room are the factors that count in educational realization. The efficiency of a school or of a system of schools must be measured by the efficiency of its class-room practice; the thing that the pupil is *doing* is the thing that counts.

When we find a true teacher at work in a class room we generally find that he is using the question and answer recitation for a distinct educational purpose: he seeks through a series of skillful questions to draw forth from his pupils certain groups of facts related or unrelated; he then gives the pupil the incentive to assort his facts and put them together in new relations, converting them into potential factors in his experience; he helps him to make over a mass of dry facts into living knowledge. The mechanical teacher seeks in his questioning merely to drive home a certain daily assortment of facts gleaned from the perusal of the text-book lesson. The teacher who is a master of the art of questioning knows how, by the use of the right question in the right place, to teach his pupils to acquire and classify knowledge. If he is not a master of the art, if he cannot himself be clear and logical in his questioning, he fosters in his pupils negative habits of work, poor associations, and careless impressions.

With the scientific teacher, the conversation hour is the time for versatility in effort to establish ideals, to form habits of thought and action, to do any of the many things pertinent to the development of the unformed or crudely formed habits of the youthful mind. With the mechanical teacher it is continuously a period for pumping facts into or out of the storage reservoir of the mind. There is a story of an Ohio school teacher who asked of her class one day a question that did not draw the prompt response she expected. With some surprise she turned to one of the boys, saying, "You know what I want you to say, Johnnie; why don't you say it?" Johnnie replied, "I know what you want all right, but you ain't asked the question what fetches it." This teacher was pumping for facts, and the youth, wiser than she, refused to yield up his store until the teacher had performed her task properly.

Possibly one reason for the general defects in our method of using the question and answer is due to the very casual attention paid to the subject in our training of teachers. In most training classes, two lines of instruction are strongly stressed, namely, the fund of knowledge and the psychology of teaching. A school emphasizes the necessity for a fund of knowledge, requiring that a certain proportion of time in the stage of preparation be given to the content studies in order that the teacher's experience may always be broader and richer than any possible needs of his class. The school also emphasizes the importance of the psychology and theory of teaching, requiring students to make application of their psychology or theory in selecting and adapting from their fund of knowledge certain portions for the immediate needs of the class room. In concrete form this last phase of work is embodied in a lesson plan, which gives variously the psychological aims of the lesson, the content, and a brief outline of the manner of presentation. This accomplished, the student-teacher is frequently sent to meet his class, leaving the immediate connection between the plan in his mind and the experience in the mind of the child to be met through a series of questions. These questions may be so inspiring in their origin that they stimulate the mental life of the children to just the right degree of vigorous activity, or they may, in themselves, wholly defeat a nobly conceived psychological aim of the lesson.

For these reasons I believe the subject of questioning should have a place in the training of every teacher—a place that is comparable in importance with "fund of knowledge" and psychology. Since it is so largely the medium by means of which the principles of psychology and the fund of knowledge are tied together to further the educative process, it stands to reason that it is a point in the training of teachers where thoughtful attention should be centered. Young teachers should not be left to do haphazard work in questioning, but they should be made familiar with the functioning power of different types of questions, and should know how to incorporate in the plan of a lesson a framework of questions, possibly not more than eight or ten in number, that will indicate conclusively the intended values of the lesson. If the lesson is to have any aims and values, these must be apparent in the questioning,—otherwise they remain things of theory in the note book of the teacher.

The entire range of questions can, for obvious reasons, never be prepared before entering the class. It is impossible to anticipate the crossroads and the byways through which the teacher may be obliged to journey in order to guide his pupils to a camp ground for the day. Any teacher who attempts to follow a rigid sequence of questions is hopelessly lost, and all spontaneity is swallowed up in "method." However, there is a reasonable course between total absence of preconceived method and total absorption in such method. There is an art in questioning that can be acquired by study and practice. The art of questioning well is a high attainment in a teacher's method. Proficiency is not to be expected of novices in the profession, yet it should be a possible attainment with practice of the most conscious and intelligent sort. Practice, however,—mere practice—will not accomplish the desired end; many a teacher questions hourly during every day of a school year and is no more skillful than when he began. When a teacher conscientiously makes study of the subject, analyzing and criticizing his own attempts, trying and failing, and trying again, it is possible to develop technique in questioning, just as it is possible to develop technique in any other art. It is absolutely essential to bring conscious attention to bear upon the subject before one can command the habit of questioning well.

Although we recognize the existence and the importance of several different types of recitation, I believe it is safe to say that eight-tenths of the school time is occupied with questions and answers. The first question the teacher asks after a class enters the room serves to give a vigorous prick to the attention of the group, and to bring forward into consciousness the masses of experience that are likely to be needed for the work of the hour. For example, a class may have just come from a period of German, where every faculty was strained to understand, to give expression, to incorporate for the first time certain new constructions and idioms of the foreign language. And now, after an interval of five minutes, another teacher aims, by one direct question, to throw into the background all thought of the German, and to bring forward another mass known as geometry, as by the pressing of a button. Plato named the question well when he called it the "torpedo's touch." Sometimes, at the close of several hours of class work, and after a prolonged series of questions, the mind fails to respond to this kind of stimulus. We find that the attention of the pupils lags; then the teacher is forced to wield his weapon with even greater vigor, so that the intellectual powers of the poor pupils are fairly prodded to action, just as the vitality of a jaded horse is stimulated by the spurs of an ambitious rider.

We know something of the effect of a question upon ourselves when we are listening to a lecture. Our interest and attention are naturally with the speaker; we make ourselves most receptive; we sit back for a comfortable and enjoyable hour. Then if the lecturer suddenly pauses and frames a good question, the effect is instantaneous whether the question is directed at us individually or at the world in general. What happens in the gray matter of the brain may be left to the psychologist to explain, but we know perfectly well what our experience is. Whereas interest and attention were present before the question came, their nature now is somewhat different. We have suddenly been called upon to make quick associations of ideas, and possibly to give expression to thought, both sets of activities requiring a degree of mental vigor not exercised when we were mere listeners. The "torpedo's touch" has been applied.

In our class rooms children are being brought up on this kind of mental stimulus, exercised with so little discretion that there is a continuous tendency to over stimulus of certain qualities, generally of the more superficial sort, to the utter neglect of the more valuable qualities. While fully cognizant of the importance of the question as the legitimate implement of the teacher, designed by its very nature to be perhaps the greatest medium of instruction, I believe it is generally used too vigorously and too thoughtlessly, thus defeating the very purposes for which it was designed.

If the purpose of the question is to provoke thought and evoke expression, can the result be other than negative when a teacher of history in one class period of forty minutes asks one hundred and fifty questions, and gets one hundred and fifty answers, with an average of more than three questions and three answers per minute? With such breakneck speed what chance can there be for assimilation or association of ideas, and for orderly expression? The nervous pace of the American people is set in just this way by thousands of our teachers during every day of the year.

That my assertions regarding present-day practice in the use of the question and answer recitation may not be purely theoretical or derived merely from impressions received during cursory observations, I have made personally a set of investigations of prevalent practices in the use of the question and answer in typical schools in and around New York City. The results of these investigations are set forth in the following chapters.

PART II

EFFICIENCY OF INSTRUCTION AS MEASURED BY THE NUMBER OF QUESTIONS

CHAPTER I

NATURE OF THE INVESTIGATIONS IN CLASS-ROOM PRACTICE

My investigations touching the teacher's use of the question as a medium of instruction have covered a period of four years. I have observed classes in different types of schools, public and private, and grades from the seventh grammar through the last year of high school. In selecting teachers for observation, I have always asked for the best teachers in the school, so that the results of my observations reflect the work that is acknowledged to be above the average. Twenty lessons have been stenographically reported in order that I might have some accurate black-and-white records of class work for detailed study.

There has been heretofore a lack of studies of actual class-room practice except by way of casual impressions received and notes taken during personal observation of a lesson. There has been a want, too, of accurate and permanent records of every word uttered during a class period so that lessons could be analyzed and studied for their intellectual and psychological values, as definite pieces of literature. It was for the purpose of furnishing black-and-white records of facts as a basis for study that these stenographic lesson reports were made. It was necessary to get absolutely away from the radiance of a good teacher's presence and the sympathetic interaction of the personalities of pupils and teacher, and to sit down in the privacy of one's study with the cold hard facts of the intellectual " stuff " of the lesson, in order to get anything like a systematic approach for the estimate of values in questioning. It is far from my intention to depreciate the qualities of sympathy, personality, inspiration, and " interaction," but these estimable characteristics alone do not constitute the framework of the educative process. There must be first of all a firm foundation of the content of instruction—something worth while to teach and consistent methods of teaching it—and then sympathy gives life to work, and inspiration gives it direction.

By means of the stenographic reports, then, we may be able to analyze a lesson for any of its functions or values that can be measured by spoken words. It is the purpose of this study to analyze for questioning alone. Content, plan of lesson, methods of assigning work, aims (" utilitarian," " cultural," " social," or " efficiency "), are not considered except as they may be reflected in the questioning.

The first reading of a stenographic lesson is generally disappointing. This is due, I think, to the fact that it is so different from a " model " lesson with which we unconsciously compare it. The stenographic lesson seems void and flippant by contrast. A model lesson is a creation of the mature, well-drilled mind of its teacher-author, who, knowing his goal, his time-limit, his material and his tools, shapes his lesson as a unit,—as complete and perfect a unit as he can conceive. It is not so with real lessons. The teacher in the class room must always reckon with the element of the unexpected; the lesson report reflects it. There are all manner of exigencies to be met in the conduct of a real lesson, and these " asides," interruptions, and repetitions make the actual report seem less complete, less serious, but much more natural than the model lesson.

The stenographic reports are to all intents and purposes accurate. There are certain limitations in the best congressional reporters when they are called upon to use the technical vocabularies of our class rooms with the speed required to keep pace with nervous teachers and high-strung pupils. There is additional difficulty encountered through the habitual carelessness of children in the use of spoken English. " Mouthing " of words, trailing sentences off into nothingness, leaving sentences unfinished, these are some of the difficulties the reporters must meet. The reports have in every case been returned to the teacher for correction of words, and for insertions where the stenographer lost words. If the report seemed to the teacher to be wholly unfair because of the stenographer's incapacity, it was destroyed.

The stenographic reports are quoted freely in the following pages. The criticisms are in no way personal to the individual teachers, for each of whom I have the most sincere respect. In selecting them for these studies, I have consciously chosen representative teachers in the different schools and in different subjects. In every case the presence of the stenographers was an ordeal that was met with courage and unselfishness. Under the circumstances, conditions could never be wholly normal. Loyalty to the profession and intelligent appreciation of the needs of the profession prompted the acquiescence of the teachers in the confessedly trying experiments. I trust that the discussions will be accepted in the same professional spirit, since they are in no way criticisms of individuals, but rather a presentation of characteristic features in teaching.

In addition to the series of twenty stenographic reports of lessons, I have made two different studies in observation: the first, a series of one hundred random observations in various subjects of the curriculum for the purpose of counting and noting the number and the nature of the questions; the second, a series of ten observations of selected classes, each class having been followed through the activities of an entire school day for the purpose of studying the nature of the question-and-answer stimulus in the aggregate as it is administered to school children daily.

The first series of one hundred observations made at different times and in different schools, for purposes of recording questioning activity, is shown below. Every class observed is reported accurately, even if it chanced to be largely a laboratory period or a reading lesson in the literature of a foreign language. If there were no questions asked during the period a zero represents the fact.

TABLE I

Showing the Number of Questions Recorded for a Series of One Hundred Random Observations in Six Subjects of the High School Curriculum

English	Latin	History	Science	Modern Language [1]	Mathematics
69	105	41	122	81	165
129	75	142	86	60	70
70	66	125	54	151	86
68	61	94	0 [4]	119	35
94	77	64	73	123	116
74	42	90	71	29	120
113	112	60	88	176	85
68	90	53	34 [2]	121	77
88	101	61	15	116	78
39	122	97	105	88	93
97	96	47 [3]	98	110	130
74	98	66	86	10	84
120	90	93	97	0 [5]	105
49	82	61		93	98
89		76		46	56
102		88		104	68
55		80		111	89
200		128			
25		68			
		90			

[1] In the Modern Language column the classes reflecting high questioning activity used the modern method of teaching, requiring pupils to speak the foreign language. It is the type of work represented on page 31. Where few questions are recorded, there was translation or written work, the language not being used orally.

[2] An unusual lesson because twenty-five of the thirty-four questions were asked by the pupils. The instructor encouraged questions, selecting with excellent judgment certain of them for experimentation and elaboration. The result was that the lesson developed an impetus born of real interest. I mention it because this lesson was unique in the series of one hundred.

[3] This lesson was one of a very few in the series where the text-book was used for consultation during the recitation. In most cases the text was closed and put away, the pupils being expected to reproduce the contents. It was a pleasure to find classes encouraged to use their text as a book of reference.

[4] Lecture by teacher.

[5] Examination.

The second series of ten studies represents the questioning activity of particular classes throughout an entire school day. In each observation, the class was accompanied from the hour of assembly until the time of dismissal, and the questioning activity was minutely recorded. My purpose in making this series of observations was to find out the kind and amount of intellectual stimulus meted out to our pupils by the questions, and what it means when reckoned in terms of a day's activity, or a week's activity.

TABLE II

SHOWING THE QUESTIONING ACTIVITY OF PARTICULAR CLASSES THROUGHOUT AN ENTIRE SCHOOL DAY

1. FIRST YEAR HIGH SCHOOL. CLASS PERIODS: 45 MINUTES

		Questions	Answers (relative)
9:25–10	German	176	176
10 –10:40	English	88	88
10:40–11:20	Algebra	120	120
11:20–12	Latin	61	61
12 –12:40	(Lunch period.)		
12:40– 1:20	Science	71	71
1:20– 2	Gymnasium period (floor work, no questioning).		
		516	516

Notes on 1, *showing the nature of the work and types of questions employed:*

1. GERMAN (176 questions). The questions and answers were short, of the sort necessary to carry on conversation in German, and to give drill in the use of vocabulary and forms. The following are some of the questions asked,—just enough to show the trend of the work and the type of question.

Was ist das? (Edelweiss.)
Gretchen, hast du das Edelweiss gesehen?
Paul, kannst du das Edelweiss sehen?
Kannst du das Edelweiss erreichen?

2. ENGLISH (88 questions). After thirteen minutes spent on a spelling exercise, the lesson began with a discussion of fables.

What is the difference between a myth and a fable?
Have you ever read any fables?
How many have read Aesop's?
Why is it that when people study mythology they are so much interested in Greek mythology?
To what source do we look for Greek mythology? (Homer.)

3. ALGEBRA (120 questions). These were largely upon the analysis of some problems in factoring, where questions followed each other closely and answers were brief.

4. LATIN (61 questions). Short questions upon construction such as:
   What does the phrase "a sinistro cornu" mean?
   Why is the verb in that sentence in the singular?
   What case is "hostibus"?
   What is the antecedent of "Quod"?

5. SCIENCE (71 questions). These were of a developmental nature.

In these five class periods of forty minutes each, without deducting time for the change from class to class, the assignment of new work, etc., etc., the total time is 200 minutes, and the total number of questions recorded 516, so that the rate is about 2.58 questions, and 2.58 answers per minute for each of the 200 minutes.

2. SECOND YEAR HIGH SCHOOL. CLASS PERIODS: 45 MINUTES

	Questions	Answers (relative)
Gymnasium	0	0
History	93	93
German	29	29
Mathematics	116	116
Latin	66	66
English	68	68
	372	372

3. FIRST YEAR HIGH SCHOOL. CLASS PERIODS: 45 MINUTES

	Questions	Answers (relative)
English	113	113
Mathematics	35	35
Music	34	34
Study period	0	0
Ethics	52	52
Latin	75	75
English	39	39
	348	348

4. SEVENTH GRADE. CLASS PERIODS: 30 MINUTES

	Questions	Answers
History	76	76
Mathematics	85	85
English (in two periods)	97	97
Modern Languages (French)	65	65
Science (geography)	88	88
	411	411

5. FIRST YEAR HIGH SCHOOL. CLASS PERIODS: 45 MINUTES

	Questions	Answers
English	74	74
Science	34	34
Latin	77	77
Mathematics	77	77
French	110	110
	372	372

6. First Year High School. Class Periods: 30 Minutes

	Questions	Answers
Latin	42	42
English	120	120
Algebra	78	78
German	10	10
History	88	88
	338	338

7. Second Year High School. Class Periods: 30 Minutes

	Questions	Answers
English	49	49
French	70	70
Latin	112	112
German	93	93
Study period	0	0
Mathematics	93	93
	417	417

8. Second Year High School. Class Periods: 45 Minutes

	Questions	Answers
German	46	46
Latin	90	90
English	89	89
Study period	0	0
History	128	128
Mathematics	130	130
	483	483

9. First Year High School. Class Periods: 45 Minutes

	Questions	Answers
Declamation	102	102
English	55	55
Science (test)	15	15
Mathematics	84	84
German	114	114
	370	370

10. Eighth Grade. Class Periods: 40 Minutes

	Questions	Answers
Assembly (special)	0	0
English	200	200
Science	0	0
Penmanship	0	0
Music	0	0
Mathematics	56	56
Reading (declamations by class)	20	20
History (work done by teacher)	45	45
	321	321

In this series of ten observations (Table II) the average number of questions for a day's activity is 395. I have no doubt that if any one of these classes had been followed for a period of one week or longer, the average would have remained practically the same, a little higher or a little lower. It would not help us to know the absolute accuracy of the figure even if it were possible to secure it. What we do need to know is the direction in which our present practice is drifting, and the pace it is assuming. Considering that children in our schools are regularly held by our teachers, collectively, to a performance of something like four hundred questions and four hundred answers in one day, and something like four hundred questions and four hundred answers the next day, and so on, we have in this situation alone a rather significant factor to reckon with in estimating standards of class-room efficiency.

CHAPTER II

EFFICIENCY OF INSTRUCTION AS MEASURED BY A LARGE NUMBER OF QUESTIONS

When I asked a school principal what he considered fair questioning activity for his teachers he replied, after reflection, that he supposed some of his teachers might ask forty-five questions in a forty-five minute period; that is, one question per minute. When I showed him the figures of a series of observations made in his school his reply was, "*Why, when do they think?*" a very good question for principals and teachers to answer.

The fact that one teacher has the ability to quiz his pupils at the rate of two or three questions in a minute, is a matter of comparatively slight importance; the fact that one hundred different class-rooms reveal the same methods in vogue is quite another matter. The fact that one history teacher attempts to realize his educational aims through the process of "hearing" the text-book, day after day, is unfortunate but pardonable; that history, science, mathematics, foreign language and English teachers, collectively, are following in the same groove, is a matter for theorists and practitioners to reckon with.

The first impression borne in upon me while making the series of one hundred observations was that of the large number of questions. It was almost overwhelming, as I proceeded from class to class, to find two, three, and four questions per minute the speed of one teacher after another, in one subject after another. It seemed so preposterous that I was not satisfied until I had set the stop watch upon my own accomplishments in that direction and found that I could match the speed with ease.

If these studies in observation and the material of the stenographic reports are to be of service to the professional work of supervisor and teacher, they must be interpreted in terms of their significance in the process of instruction. Let us consider first of all this fact of number. What suggestions do the figures in Tables I and II alone offer in measuring school or class efficiency?

FIRST: The large number of questions suggests the maintenance in the class room, for considerable portions of time, of a highly strung nervous tension where there should be natural and normal conditions. This high-pressure atmosphere is always a creation or reflection of the manner of the teacher, with whom it is sometimes wholly temperamental and sometimes only assumed in the class room for the purpose of gripping the attention of pupils. Attention once secured and the pace once established, it seems to be characteristic of class-room procedure to accelerate the tempo rather than to slow down to one that is more normal and more consistent with nature's own processes of mental activity.

The teacher who has acquired the habit of conducting recitations at the rate of from one hundred to two hundred questions and answers per class-room period of forty-five minutes, has truly assumed the pace that kills. It is deadly to the nervous organism that maintains it and, by reflection, injurious to the children who live in that atmosphere.

SECOND: The large number of questions suggests that the teacher is doing most of the work of the class hour instead of directing the pupils in the doing. One reason why one hundred and fifty questions *can* be asked in forty minutes is due to the fact that the teacher can think more rapidly and talk more rapidly than his pupils, and so, in order to cover a large amount of subject matter, he carries the trend of the lesson through his questions, the pupils merely punctuating the series with short answers from the text. This situation can best be realized by reading a selection from a stenographic report in history.[1]

TEACHER: *A Congressional investigation cannot be justified unless the charges are serious. Now the charges against Arnold in his Philadelphia career were of a petty sort; he was charged with embezzling funds entrusted to him, and the charge that he had used an army wagon was not enough to have disgraced him before the country.*

On what occasion had Arnold failed to receive credit for what he had accomplished?

PUPIL: At Saratoga.

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[1] The oral work of the teacher is printed in italic; that of the pupil in plain type.

TEACHER: *Who received the credit of the Battle of Saratoga?*

PUPIL: Gates.

TEACHER: *And Gates' participation in that battle had been very small. If you consider Arnold's character, his career, and the sort of man he was, you can appreciate the treatment Congress accorded to him; his career was marked with brilliancy, he had been in command of one division of the American troops, and the difficulties on that march had been particularly great. He had taken part in the charge at Quebec, and his reputation had been greatly enhanced. The result of the Battle of Saratoga was due largely to Arnold's part in it, but Congress, in its usual mismanagement of its forces which is characteristic throughout the revolution, failed to recognize his services. What does Washington's attitude toward Arnold seem to have been?*

PUPIL: He esteemed him highly, and was very kind to him.

TEACHER: *What was the character of the reprimand which Washington gave to Arnold?*

PUPIL: He said he would try to gain back his good name as well as he could.

TEACHER: *The whole language of that reprimand was as gentle as he could make it. They were unable to remove him from the army altogether. What feature of Arnold's treason do you think was most reprehensible, most open to criticism?*

PUPIL: It was through him that Andre came to his death, he let Andre die really in his place.

TEACHER: *That is the way it looks, that is one bad feature; although perhaps Arnold is not open to as much criticism there as you may think. He went to General Clinton and offered to surrender himself. When you consider how he got the command at West Point, you will find there the worst point in his whole career. He got the command from his best friend Washington; the betrayal was not only a betrayal of America, but of his best friend Washington, and Washington felt the disgrace perhaps even more than Arnold himself.*

I want to take up briefly the discussion of Andre's punishment. What were the arguments brought forward before the committee of investigation against the execution of Andre on the charge of being a spy?

PUPIL: He was the mere tool of Arnold; the information he carried was second-hand; he was simply a messenger between Arnold and Clinton.

TEACHER: *What question of military law came up there, do you know? Whether a messenger traveling under a—*

PUPIL: Under a flag of truce; he wasn't, was he?

TEACHER: *What might be interpreted as a flag of truce?*

PUPIL: A passport from Arnold.

TEACHER: *The British tried to make as much as they could out of that; what was said to that argument?*

I will quote also the last half of a chemistry recitation—a small portion of a lesson of more than usual interest. In this work there was, however, active participation by every pupil during the laboratory work just completed.

TEACHER: *This salt you have made is as good as any salt you ever ate, and I venture to say, a good deal better, and I am going to ask in your home work that you find out why. I want you, before you go, to look at this disk of common salt; it is made by evaporating a salt solution down very, very slowly, and you get a very pretty cubical-shaped crystal,—I want you to look at those. What is the formula for common salt, John?*

JOHN: Na Cl.

TEACHER: *Anyone decided it would be different? Of what acid is it a salt, Irma?*

IRMA: Hydro—

TEACHER: *You cannot pronounce it?*

IRMA: Hydrochloric.

TEACHER: *Can you name another salt of hydrochloric acid?*

PUPIL: Chlorine—no, sodium.

TEACHER: *I want another, a salt of hydrochloric acid?*

PUPIL: Potassium salt, calcium salt.

TEACHER: *What would be a formula for the potassium salt?*

PUPIL: K Cl.

TEACHER: *What are you going to call all salts of "ic" acids?*

PUPIL: "ates."

TEACHER: *This is the sodium salt of hydrochloric acid. what would you name it?*

PUPIL: Sodium hydrochlorate.

TEACHER: *What would the sodium salt of chlorous acid be, Edith? Effie?*

PUPIL: Sodium chlorite.

TEACHER: *What would be the sodium salt of hydrochloric acid?*

PUPIL: Sodium hydrochlorate.

TEACHER: *Is common salt usually called sodium hydrochlorate in the laboratory?*

PUPIL: Na Cl.

TEACHER: *Suppose I want to name it? What is its formula?*

PUPIL: Sodium hydrochlorate.

TEACHER: *Is it called sodium hydrochlorate? I never speak of it as sodium hydrochlorate.*

PUPIL: Sodium chloride.

TEACHER: *In this case, the reason why we call it sodium chloride instead of sodium hydrochlorate is what? What name do we give to this (Cu O)?*

PUPIL: Copper oxide.

TEACHER: *H S?*

PUPIL: Hydrogen sulphide.

TEACHER: *What name do I give to this? (Na Cl)?*

PUPIL: Sodium chloride.

TEACHER: *Why do I name it with a name that ends in "ide" instead of calling it sodium hydrochlorate?*

PUPIL: It only has two elements in it.

TEACHER: *All right; and substances that have only two elements in them are called what?*

PUPIL: "ides."

TEACHER: *The real name for this is sodium hydrochlorate, but we call it sodium chloride, because it has only two elements in it; what are the two elements in sodium chlorite?*

PUPIL: Sodium and chlorine.

TEACHER: *What do you know about the physical properties of sodium?*

PUPIL: Put sodium in water and hydrogen is obtained.

TEACHER: *Physical or chemical property?*

PUPIL: Chemical.

TEACHER: *I asked for physical property.*

PUPIL: It is a soft metal.

TEACHER: *That is the peculiarity about it,—a soft metal. Here is chlorine, you have never seen it before. We are going to make some of it from the salt you have made in the laboratory, but at present I made some chlorine from other salt to show you how it looked. It is a decidedly green gas. You have not made any gas before that had a color; all the gases you have made have been colorless gases. Colored gas and sodium go together to make this compound Na Cl. You cannot tell anything at all about the properties of a compound by knowing something about the elements that go to make it up, can you? And you cannot tell anything about an element from knowing about the compound it comes from. Does sodium suggest to you common salt? This salt is a very valuable compound in the household, we use it every day, and know how important it is. I want you to notice that the physical properties of that substance are not like these elements. Imagine anybody trying to season his food with chlorine. And yet salt is a very valuable compound, and the elements taken by themselves would be exceedingly injurious to life. Suppose you were asked to find the molecular weight of this compound, Na Cl, how would you find it? Don't know how to find the molecular weight? Lucy, do you? Do you, Frances? Have you ever found it?*

PUPIL: Yes.

TEACHER: *Yes, once or twice. How do you find it in the case of sodium chlorite? What will I have to add together?*

PUPIL: Weights of the elements that are in it.

TEACHER: *Of course; what is the molecular weight of salt?*

PUPIL: 58.5.

TEACHER: *To find out the percentage of sodium in sodium chloride.*

PUPIL: $\frac{23}{58.5}$

TEACHER: *Can you tell me, roughly, what percentage that would be; suppose I scratch off some of this.*

PUPIL: About 30 or 40 per cent.

TEACHER: *About two-fifths, isn't it? Somewhere around* 40 *per cent. Put a question mark after it. Well, if the percentage of sodium is* 40 *per cent, what is the percentage of chloride, George?*

PUPIL: 60 per cent.

TEACHER: 60 *per cent of chloride in common salt; what percentage in an ounce of common salt, Alice?*

ALICE: The same proportion.

TEACHER: *Of course, the same proportion; and if I should tell you that an ounce of common salt is about* 28 *grams of common salt, could you tell me how many grams of chlorine I could get out of common salt?*

PUPIL: 60 per cent.

TEACHER: *And that is about* 17 *grams out of an ounce of common salt; how could I find out how many liters of chlorine, roughly speaking, in an ounce of common salt; how could I find out?*

PUPIL: You must know the weight of a liter.

TEACHER: *If I told you that chlorine is* 35.5 *times as heavy as hydrogen, could you tell me how to find the weight of chlorine, Margaret?*

MARGARET: Multiply that by the weight of a liter of hydrogen.

TEACHER: *What is the weight of a liter of hydrogen, Ruth?*

PUPIL: 98/1000.

TEACHER: *—of a gram. If I multiply I get something like* 3.15; *how can I find out how many liters there are in* 17 *grams of chlorine gas, Alice?*

ALICE: I don't know.

TEACHER: *Do you know the weight of one liter of chlorine gas? Which figure on the board represents that?*

PUPIL: 3.15.

TEACHER: *If one liter weighs* 3.15, *how many liters in* 17 *grams?*

PUPIL: You divide.

TEACHER: *Yes, divide what?*

PUPIL: 17 into—

TEACHER: *Into what?*

PUPIL: By three and a half.

While the students in the Department of Secondary Education of Teachers College were analyzing some stenographic reports, they were asked to comment upon the relative amount of teacher and pupil activity. They went about it in a most systematic way, counting the lines or the words spoken by the teacher and pupils. One may say with a degree of fairness that this is not a gauge of activity because it takes no account of subjective activity; however, it does indicate with sufficient accuracy the amount of time consumed by teacher and pupils in oral expression. I have had the method followed with other stenographic reports, and I present the totals, giving the percentage of teacher and pupil activity in each case.

TABLE III

SHOWING PERCENTAGES OF TEACHER AND PUPIL ACTIVITY IN TWENTY STENOGRAPHIC REPORTS, AS MEASURED BY SPOKEN WORDS

		Teacher activity	Pupil activity
1.	History	80	20
2.	"	57	42
3.	"	59	41
4.	"	75	25
5.	"	62	38
6.	"	58	42
7.	English	29	71
8.	"	60	40
9.	"	43	57
10.	"	71	29
11.	"	64	36
12.	"	46	54
13.	Latin	60	40
14.	Science	80	20
15.	"	75	25
16.	Mathematics	67 [2]	33
17.	"	90 [2]	10
18.	Modern Language	67 [2]	33
19.	"	70	30
20.	"	57	43
	Average	64 [1]	36

After reading the Stenographic Lesson Reports published in the TEACHERS COLLEGE RECORD, September, 1910, the principal of a city school wrote me that he was prompted to a tour of inspection in his school to see if his teachers were doing the large amount of work that seemed to characterize teacher activity in the Reports. By a random estimate he placed the percentage of teacher activity at 85 per cent, 95 per cent, and in a few instances 100 per cent (where he found teachers lecturing). His investigation brought him promptly to the conclusion that the reason why our pupils gain so little in intellectual power is because our teachers do the intellectual work.

THIRD: The large number of questions suggests that whenever teachers, either individually or collectively, preserve such a pace for any length of time, the largest educational assets that can be reckoned are verbal memory and superficial judgment. It is quite

[1] The average for the series shows teacher activity 64 per cent and the pupil activity 36 per cent, which means that in twenty class rooms selected at random in our best schools two-thirds of the oral expression was that of the teacher, while the other third was divided amongst the 20 or 40 pupils present in the class room.

[2] Two lessons in mathematics and one in modern language are designedly developmental lessons.

obvious that with the rapid fire method of questioning there is no time allowed a pupil to go very far afield in his experience in order to recall or to associate ideas in fruitful ways. He is called upon merely to reflect somebody else—the author of his text-book generally—in small and carefully dissected portions, or to give forth snap judgments at the point of the bayonet. The following short sequence of questions illustrates my meaning:

Do you think Julius Caesar or Augustus the first emperor? Why? (Judgment given by text-book.)

Give me the succession of rulers after Augustus.

Do you know who succeeded Augustus? (Several questions finally brought answer Tiberius.)

What relation was he to Augustus?

What is the present principle of succession in England, for instance? (Answered in part and at random by two or three pupils, and the instructor.)

What was Augustus technically?

What was he officially?

and so on through sixty questions and sixty answers in a thirty-three minute period, an average of two questions and two answers per minute. And this was by no means an extreme lesson; in fact, it was one of more than ordinary interest. On the whole it was representative of the best type of question-and-answer recitation in history; but even with this relatively moderate pace in questioning, what opportunity could possibly be given to pupils to get beyond the realm of superficial memory of the text?

FOURTH: The large number of questions suggests that there is no time in the mechanics of the school room to cultivate the gentle art of expression. The query goes up from educators and thoughtful parents everywhere, "Why do our young people express themselves so badly?" "What are our schools doing to cultivate the powers of speech?" The only way to develop powers of speech is to give opportunity for their exercise under skilled guidance. When the day's work—yes, the week's work,—is so largely given over to rapid questioning, there is no time for niceties of speech. When there are from two to five answers per minute, each supposedly reflecting a mental process, there is little time given to correction of crudities in utterance; furthermore, it frequently seems that the teacher is so gratified to catch a glimmer of an idea from a pupil, that he will promptly seize it, amplify it, clothe it fittingly, the pupil meanwhile thinking he has said something creditable. Why does the teacher do this? For some reason that is real or imaginary he has set himself a pace and he cannot allow the time necessary for a pupil to recall, associate and *express* an idea. If this happened occasionally one might consider it justified, but it is a very common situation with high pressure questioners.

I quote from the introductory pages of an English lesson every answer representing the oral expression of the pupils for the first twenty minutes of the class period.

Five.
On the second syllable.
I don't know.
Too choppy.
Flashes.
By flashes was the darkened wood lighted.
I think "The darkened wood by flashes was lit up."
No, too many syllables in the first part.
"Blinding to sight."
Can you have any rhyme in blank verse?
Too many syllables.
That is a rhyme.
No, I don't think so.
Three out of five.
Four out of five.
Yes.
"Rain" and "twain" a rhyme.
When he started to draw the circle.
Yes.
Very good.
"Dark and awesome wood."
"Runes and rhymes."
Alliteration.
The ball of fire.
The wind snapping the trees.
A couple of places it wasn't correct.
The second line.
The cakes of ice—an extra syllable.
"The sky is dyed with red and gold"—that was very good; and where the lights began to come out, you can fairly see them come out.
The "Hudson's highway."
Yes.
The crash of the ice doesn't sound quite like the rest of it does.
I thought that was good.
According to the tide.

I think it makes you think a little of the description of the water snakes, the first part.

I think "When the ice went floating by, green as emerald."

The way it went floating by.

"Cracked and groaned and roared and howled."

Yes.

An extra syllable in "and hid them in the seams of rock upon the mountain side."

Yes.

Isn't that too long, "and now the South wind drifted by?"

The last line is still too long.

I don't think "And thus the butterflies were made" is long enough.

No.

There is a good choice of words in "And lifted up on many colored wings."

About the waves lapping on the shore.

I have set the answers alone in this way with intent to make them stand for what they are in the way of oral expression. If I had quoted the full text of the lesson, the reader would probably have been impressed, as the observer was, with certain content values, and might not have observed that the individual pupils were given almost no opportunity for oral expression. Up to this point the teacher was doing 85 per cent of the work; the pupils, collectively, 15 per cent.

Fifth: The large number of questions suggests that there is little thought given to the needs of individuals. The teacher sets the pace in his questioning: the pupils follow as a body, or drop by the wayside. When pupils become interested in their work and begin to think for themselves, it is very natural for them to ask questions, and they will do it invariably if allowed to do so. In the elementary school, the children are encouraged to seek information, but in high school there is no time apparently for individual initiative. Take what the text-book gives you and be satisfied, seems to be the watchword of many class rooms. A glance through the stenographic reports shows that few questions are asked by the pupils, and when asked, they are passed over apologetically or deferred to a more convenient season. The moment we admit that we ask from 75 to 175 questions in a class period, we commit ourselves as "drivers" of youth instead of "leaders"; drill masters instead of educators.

Sixth: The large number of questions suggests that we are coming, more and more, to make the class room the place for displaying knowledge instead of a laboratory for getting and using it. At the close of a class hour, the teacher assigns a lesson for the next day; the pupils take the books home for the purpose of learning the lesson; the following day the teacher gives the pupils the opportunity to display how much or how little they learned. In some classes this represents the process of class activity from the beginning of the year to the end. Hearing the lesson or, quite aptly, "backing the book" is the function of education. There is little effort made to adjust or use knowledge so acquired, or to work it over with knowledge previously acquired.

SEVENTH: The large number of questions suggests that in actual practice there is very little effort put forth to teach our boys and girls to be self-reliant, independent mental workers. The discrepancy between our theory and practice is nowhere more patent. With the tremendous pressure incident to the rehearsal of questions numbering from seventy to one hundred and seventy, for the purpose of covering every conceivable issue expressed in the pages of a text assignment, the teacher loses sight of the fact that he has a *youth* to teach through the medium of his subject. There is no time to teach him how to study: how to organize subject matter, how to judge relative worths of facts studied, what to memorize. Even if the teacher himself possesses a plan of work that is in itself a model of organization, its value is likely to be lost sight of in the rapidity and intensity of questioning activity. If there is no time for the teacher's own fine intellectual work to be made apparent it is not to be expected that time will be found for the slower process of forming and fixing habits of study with boys and girls.

There is no use in claiming to teach boys and girls how to study, and how to command their own intellectual forces by the current practice of keeping them at the point of the bayonet in rehearsal of text-book facts at the rate of two or four per minute.

IN CONCLUSION: The large number of questions suggests an almost total absence, in the practice of our class rooms, of any psychological principles underlying aims or methods. We believe that youth is the time in which to form habits of thought and action. We believe that habits can be formed by "focalization plus drill in attention."[1] We believe that we can fix habits only by giving them exercise; that they will function as they are taught to function, and for the purposes for which they are taught to function. Our professional creed includes all these tenets and more. Now we desire to train pupils to habits of independent thinking. There is no honest teacher living who would disclaim this aim for his school or his class room, and yet with the customary practices set forth above, teachers furnish little or no incentive to independent thinking. We all know that boys and girls show evidences of good healthy intellectual initiative in affairs outside the class room, but there is not much opportunity for it in class; if they think at all they must think in the groove with everybody else. What has become of our psychological aim?

We possess another educative aim in our desire to broaden the intellectual horizon of our pupils. This may be accomplished by inviting or compelling students to make associations of new with old experiences. The teacher's mission is to furnish the incentive for the making of many associations, not the associations themselves. This aim can never be realized by assuming the speed of the Twentieth Century Limited through the rehearsal of text-book lessons, day in, day out, following an introduction such as this:

Where does to-day's lesson begin, Miss A?
Will you recite the first paragraph, Miss B?
Is that right, Miss C?
Will you go on from there, Miss D?
Where have you heard of the Ethiopians before, Miss E?

We recognize as another immediate aim of instruction that our pupils should form the habit of standing in a dignified manner before their fellows, and giving expression to a thought in concise and correct form. This certainly seems to be a simple requirement easily fulfilled; yet in our practice we are in such a hurry to snatch a bit of an answer here and a bit there that a boy is allowed to shamble to his feet—astride of his chair possibly—mumble the words "crossed the Hudson at West Point" and slink back into his seat. It is not worth while—there is too

[1] Bagley, The Educative Process, p. 123.

much else to do—to stop for crudities in manner and speech! Thus the gap widens between our professional aims and our daily practices.

A school principal recently sent the following notice to his teachers: Please write out for me just what you have done this week in habit-formation with your classes in English (history, science, modern language, etc.) He nearly caused a stampede amongst his teachers. He was asking them to measure their daily practices by the side of their professional aims, and to reveal in detail their methods of applying their psychology to actual teaching.

In the early days of my teaching I was called upon to plan my course of study for the entire year in the first-year high school English and to indicate for each lesson just what psychological aims I would strive to realize. The column reserved for these statements read something like this:

> Memory, emotions, will;
> Emotions, will, memory;
> Memory, judgment, will;
> Will, judgment, memory.

The real difficulty lay in trying to avoid the appearance of monotony in arranging the limited assortment of words one hundred and seventy-five times. However, when the syllabus was once completed, my difficulties were at an end, for I could *teach* my lessons exactly as I pleased and was never again seriously troubled by the relative order of will, judgment, and emotions. It would have been a much more serious matter if I had been called upon at the end of the sixth, or the twelfth, or the twentieth week to tell what specific things I had done that week in training judgments in English work through the medium of Silas Marner. Such a request would have revealed my line of questioning in order to be in any way specific. I believe that supervision needs to force such issues as this if psychology is ever to take its rightful place in instruction.

These pages offer a somewhat severe arraignment of classroom practice, I confess, and yet I believe the situation to be modestly stated and the conditions to be generally characteristic. The teachers who were chosen for the official observations quoted and reported were all men and women of unquestioned attainments, many of them with qualifications for leadership sufficient to carry their pupils to the highest goal set by modern educational theory. I am convinced that the faults in practice, since they are so general, must be attributed to the absence of any stable educational goal, and to shifting purposes in teaching, and not to inefficiency of individual teachers. When I find a teacher of history wearing himself out in a nervous struggle to quiz minutely upon five pages of text, never allowing thought to wander from the confines of those pages, I am led to believe that his educational goal is the storing of memory. It certainly is his goal in practice, if not in theory, and it is practice that counts. Such a good teacher should not be allowed to live up to such a false goal. When I find a teacher of English doing artistic work in "appreciation" and wholly neglecting oral expression, my inference is that "appreciation of literature" is his only goal. When one teacher of modern language confines his work to the translation of the foreign text into English, it is quite evident that his goal is different from that of the teacher who puts the foreign language into use as the medium of conversation and study of literature. These are some of the problems of supervision: To unify the purposes of teaching, and then to see to it that teachers measure their practices by these unified purposes. Until there is some unity in purpose we cannot censure teachers altogether for vacillating, wasteful and negative methods.

Is the Number of Questions a *FULL* Measure of Efficiency in Instruction?

The inference may perhaps be drawn from the foregoing pages that efficiency may be tested wholly by the number of questions; that the quality of the questions, hence the quality of instruction, bears a direct relation to the number of questions. If this is true, then with increase in quantity there must be decrease in quality and, conversely, with decrease in quantity there must be relative increase in quality. It would seem that we might formulate a rule that would read thus: If a teacher asks something like two hundred or more questions in a class period, the quality of those questions must be reckoned at a very low value, say 25 per cent; if he questions at the rate of one hundred and fifty per class room period, then we admit a slightly higher valuation in quality, perhaps 50 per cent; if he gets down to one hundred questions, the efficiency mark would rise correspondingly to 75 per cent; and with fifty questions in a recitation, the standard of quality would approximate 100 per cent.

If we could find that there is a direct relation between quantity and quality, it would be a relatively easy matter to increase the efficiency of instruction at once in all schools by issuing an ultimatum to the effect that no teacher should ever ask more than eighty, or seventy, or sixty questions in a class period. I am sufficiently awake to the evils of rapid questioning to believe that such a mandate would bring certain relief to the situation if it accomplished nothing more than to remove the nervous tension. It might, however, be only a partial remedy.

Such a sweeping inference regarding the relation between the quantity and the quality of questions may be unsafe. It is possible, however, to test the premise by making a comparison between the lessons containing the greatest number of questions and those containing the smallest number. For this purpose I have divided the twenty stenographic lessons into two groups: Group I, including the lessons with fewer than ninety questions; Group II, including the lessons with ninety questions or more, the number ninety being a somewhat arbitrary division line. By this classification the lessons fall into the following groups:

TABLE IV

Showing the Grouping of the Twenty Stenographic Lessons

Group I	Questions	Group II	Questions
History	41	History	90
"	66	"	94
		"	125
		"	142
English	69	English	94
"	70	"	129
"	73		
"	74		
Science	86	Science	122
		Latin	105
Mathematics	70	Mathematics	165
		Modern Language	123
		"	161
		"	196

The history lesson with forty-one questions and the modern language lesson with one hundred and ninety-six represent the extremes of questioning activity. It is obviously impossible to make any close comparison between history questions and German questions, and yet it is possible to draw from each lesson the aims and purposes of the respective teachers in using their subject as a medium of instruction, and to measure these results. The history lesson is quoted in part on page 17. There is sufficient of the content to show that the purpose of the lesson is to rehearse facts and to acquire more facts. It is a "pouring in" process—*pouring into the note books* an assortment of facts to be consumed in preparation for examination. But there are only forty-one questions, hence we should like to rank the quality of instruction very high indeed, but in justice it cannot be done.

The German lesson, on the other hand, is one in which the attention of a group of ten-year-old pupils is held at the point of the bayonet for forty-five minutes to interpret one hundred and ninety-six sentences in a foreign language, and to give back one hundred and ninety-six replies, all in the strange tongue. I quote a brief selection to show the type of questions.[1]

Dr. W.: Was machen denn diese Kinder hier?
CLASS: Sie machen einen Schneemann.
Dr. W.: Nimm den Stock. Zeig *mir* den Schneemann.
GIRL: Ich zeige *dir* den Schneemann.
CLASS: Du zeigst den Schneemann.
Er zeigt den Schneemann.
Sie zeigt den Schneemann.
Dr. W.: Noch einmal! Ich zeige *Ihnen*.
CLASS: Ich zeige *Ihnen* den Schneemann.
Du zeigst Ihnen den Schneemann.
Er zeigt Ihnen den Schneemann.
Sie zeigt Ihnen den Schneemann.
Dr. W.: Hat der Schneemann einen Hut?
CLASS: Nein, er hat keinen Hut.
Dr. W.: Zeige mir die Augen des Schneemannes.
CLASS: Hier sind die Augen des Schneemannes.
Dr. W.: Zeige mir die Nase des Schneemannes.
CLASS: Hier ist die Nase des Schneemannes.
Dr. W.: Zeige mir den Mund des Schneemannes.
CLASS: Hier ist der Mund des Schneemannes.

[1] Max Walter's German Lessons, p. 105. (Scribner, 1911.)

Dr. W.: Hier ist der Hals des Schneemannes. Noch einmal!

Class (*repeating three times*): Hier ist der Hals des Schneemannes.

Dr. W.: Zeige mir die Zähne des Schneemannes. Siehst du die Zähne? Er hat keine Zähne; er ist zu alt; sie sind ausgefallen, er muss zum Zahnarzt. Was ist ihm ausgefallen—fallen out?

Class: Die Zähne sind ihm ausgefallen.

Dr. W.: Gib deinem Freunde, deinem zweiten Freunde in der zweiten Reihe den Stock.

Girl: Ich gebe dir den Stock.

Class: Du gibst ihm den Stock, sie gibt ihm den Stock.

Dr. W.: Gib ihm den Stock.

Girl: Ich gebe dir den Stock.

Boy: Du gibst mir den Stock.

Class: Sie gibt ihm den Stock.

Dr. W.: Noch einmal, lauter!

Class: Sie gibt ihm den Stock.

Dr. W. (*to girl*): Was hat sie ihm gegeben? Meinen Hut?

Class: Nein, sie hat ihm den Stock gegeben.

Dr. W.: Hat sie ihm meinen Stock gegeben?

Class: Sie hat ihm deinen Stock gegeben.

Dr. W.: Zeige mir das Mädchen, das ihm den Stock gibt.

Boy: Ich zeige *den* Mädchen.

Dr. W.: *Das* Mädchen.

Class: Ich zeige das Mädchen das ihm den Stock gibt.

Dr. W.: Ich zeige das Mädchen das dem Schneemann den Stock gibt.

Class: Ich zeige das Mädchen das dem Schneemann den Stock gibt.

Dr. W.: Noch einmal, alle zusammen!

Class (*shouting*): Er zeigt das Mädchen das dem Schneemann den Stock gibt.

Dr. W.: Lege den Stock auf den Tisch.

Boy: Ich lege den Stock auf den Tisch.

Dr. W.: Geh auf deinen Platz.

Boy: Ich gehe auf meinen Platz.

Class: Du gehst auf deinen Platz. Er geht auf seinen Platz.

Here the questions and answers are brief with only slight variation in the construction. The purpose of the lesson is to put the new words and the new forms of the foreign tongue into immediate use. The recitation is a laboratory period for getting and using knowledge, not for storing it away in a notebook against the day of examination. Hence it seems evident that the history lesson with its limited number of questions fails in efficiency according to the ideals of history teaching; and the German lesson, with its large number of questions, ranks high as an illustration of foreign language instruction.

The modern language lesson reflecting one hundred and sixty-one questions is similar in method to the one quoted, with the difference that it is adapted to pupils of high school age. The lesson of one hundred and twenty-three questions is a developmental lesson in modern language. The mathematics lesson reflecting one hundred and sixty-five questions is a developmental lesson.

Assuming now that there is a specific purpose in short questions and short answers (hence more of them) for modern language work by the reform method (Reform Metode) and for developmental lessons where the successive steps in the development are short, we may exclude these types from further consideration and turn to the remaining lessons in Groups I and II. All of the remaining are of the usual type of question-and-answer lesson based upon text and home study—the kind of recitation we find in a large majority of our class rooms. It may be more illuminating to compare two lessons in one subject. For this purpose the English group offers contrasts, the smallest number recorded being sixty-nine, and the largest one hundred and twenty-nine. Both lessons were given in the same school and with class periods that were identical.

The first lesson (69 questions) is outlined by the teacher as follows: "To-day we want to finish our work on Cooper, recall some of the facts of his life, some of the things he did and some of the impressions we gained from reading his books and reading about him." The second lesson (129 questions) is based upon the Fourth Canto of "The Lady of the Lake."

Both lessons begin with "the telling of the story": Cooper's life; the story in the Fourth Canto. Omitting these portions, I will quote the more active part, a good half of each lesson.

Selection From the Lesson on the Life and the Writings of Cooper (69 Questions in All)

After a reference to some of the Leather Stocking stories the teacher asks: "What do you think of sequels as a rule, in the writing of books? Are any of your favorite stories written with sequels? Mary is bothered by the word sequel; who can help her out? What is a sequel?"

Pupil: A sequel is a book that has the same characters in, and comes after the other one.

TEACHER: Did you get enough to understand it? George says a sequel is a book that has the same characters in, and comes after the first story. Now, do you know any sequel; have you read a book with a sequel?

PUPIL: Yes, the Iroquois.

PUPIL: Prisoners of Zenda.

PUPIL: Count of Monte Cristo.

PHILIP: Monastery and the Abbott.

TEACHER: I am thinking of some good old standard boy and girl stories.

PUPIL: Pickwick Papers.

PUPIL: Little Women.

TEACHER: Yes; I was going back to Louisa Alcott, and the time she had to satisfy all the boys and girls.

PUPIL: Eight Cousins.

TEACHER: Yes. Do you like sequels as a rule?

PUPIL: It depends on the book. If the first book is not interesting, you don't care for a sequel, and if it is you want to go on.

TEACHER: Any other reasons why there might be some books that would not demand it?

PUPIL: Cooper writes so you don't need a sequel, he writes them so well, he ends his stories.

TEACHER: A book that needs a sequel is where he does not quite finish, and Cooper seems to finish all his stories.

PUPIL: You cannot have a book end up tragically and then have a sequel to it.

TEACHER: Yes, you cannot have a sequel when the hero dies.

TEACHER: Well, as a rule do you think a sequel is apt to be so successful a book as the first?

PUPIL: No; for after the first you get kind of tired, when you are reading of the same people.

TEACHER: How do you think the author feels?

PUPIL: I guess he is tired of writing on the same subject.

TEACHER: I think sometimes an author is, especially a sequel. That is one thing about sequels, Cooper was wonderfully successful as far as they were concerned.

PUPIL: I don't think Dickens got tired of writing sequels to Pickwick Papers, because I think the sequel was more interesting than the first book. He wanted to show the common people how he felt about it, and he thought he would write all the time for their benefit.

TEACHER: The characters in Pickwick Papers seem to be so real you can go on inventing characters for them. It all depends on the book.

ALFRED: If you have a book, and at the end you have the story all finished, and you have a sequel, it is like another story.

TEACHER: Yes, that is true; you get really another story, as we have in Cooper. Cooper's life on the whole seems to be so serene and comfortable we are interested to know he did have a little trouble. We feel that once in a while sorrow is an inspiration to a writer. The kind of trouble that Cooper had was not the kind that might have inspired him to write. What difficulties did he have?

PUPIL: He was fond of quarreling.

TEACHER: What about?

PUPIL: About politics and his writings; I think he thought people treated him wrong.

TEACHER: Yes, indeed; what time did that trouble come in his life?

ELSWORTH: Towards the end of his life a banquet was given in his honor, and he refused it, and brought a feeling against him, but before he died his friends planned another banquet, but he died before it was given.

TEACHER: Do you agree with Juliette that he was very fond of quarreling?

PUPIL: I think he was more or less a peaceful man.

PUPIL: He never tried to pick a quarrel, but never went out of his way to stop one.

PUPIL: He was always convinced he was in the right when they argued against him.

PUPIL: I think he was disagreeable as a young man.

TEACHER: What makes you think that?

PUPIL: It just said in a book I read that he was rather disagreeable, and people did not care to argue with him.

TEACHER: He was unwilling to see the other's point of view.

TEACHER: Let us see what these quarrels were about; what about his home life, did he have a happy home?

PUPIL: I think he had a fairly happy home.

TEACHER: Where did he live?

PUPIL: He lived up in the woods.

TEACHER: When you say in that general way he lived up in the woods, it doesn't sound as if he had a very comfortable home. The impression that he had a happy home is right. What about all these quarrels? They evidently had nothing to do with domestic affairs.

PUPIL: They were political affairs.

TEACHER: The politics of the times. Cooper, you remember, had spent a little part of his life just previous to all these difficulties in Europe. Did you get an impression about that right?

PUPIL: Yes, in France he had a chance to defend his country and that was what the quarrels were about.

TEACHER: I do not think your account goes very much into detail there. When he came back to this country, he found that he felt rather critical toward his own country, just as perhaps the people in England and in France had felt toward America, and when he criticized his country you can imagine the attitude of America and Americans toward Cooper. You may be perfectly willing to criticize your own country but when somebody else criticizes it how quickly you resent it. Do you know any other author who criticized America pretty sharply and aroused considerable opposition by it?

PUPIL: Dickens was quite sarcastic about America. He came over to

America and went to the White House, and saw how the government went along, and just at that time we were having a lot of trouble; it was just at that time when—just after the war, and things were not going nicely; there were great debates; and when he went back to England he wrote a lot of sarcastic things about American senators.

ALFRED: I think he wrote the bad side of America.

TEACHER: Did he criticize our morals or our manners?

PUPIL: Our manners.

TEACHER: Very largely our manners. And how did the people feel about Dickens after he had gone home?

PUPIL: He was treated kindly and entertained very hospitably, and they thought it was kind of mean of him to have gotten all that kindness shown to him and then to go back and write something disagreeable.

TEACHER: It was not what guests usually do. There is a modern English writer who criticized us pretty sharply not so very long ago.

PUPIL: An English writer always thinks he knows a little more than he does.

TEACHER: Don't you think that is rather the attitude that America took towards the criticism of our manners?

PUPIL: You hear a lot about an Englishman; he comes over and doesn't like the ways here, and he thinks he knows it all.

TEACHER: That is not exactly a fair attitude to take on our part. I am thinking of a modern English writer who came over and visited us, had a great deal of kindness shown him, and then went back and criticized Americans. Have you ever heard of Kipling criticizing us? So we find when Cooper came back and criticized his own people, told them what they had left undone, they resented it, and the last years of his life were rather stormy; he was in debates as to political questions and national questions in general. With what grade of writers do you associate Cooper?

PUPIL: In the introduction of American literature in the class with Scott.

TEACHER: An English writer at the same time; by the way, did they ever meet?

PUPIL: Yes.

TEACHER: Yes, they met, and it was very delightful that these two romantic authors met as they happened to do.

TEACHER: I am thinking what American authors he was friendly with.

PUPIL: With a men's club, he was in that with Lowell, wasn't he?

TEACHER: I think his best friends were men that were very prominent in New York at that time, Bryant and Irving, and it mentions quite a few; Chancellor Kent.

TEACHER: Does that word "Chancellor" mean anything to you? To whom does that word mean anything?

PUPIL: The man highest in a college.

TEACHER: You think it was chancellor of a college? I do not think it was meant to be used that way about Kent.

PUPIL: I think it was some kind of a government official.

TEACHER: Who can get a little nearer? Does chancellor mean anything to you (*addressing pupil*)?

PUPIL: Chancellor of the Exchequer.

PUPIL: I think it is used more in England, it has something to do with England.

TEACHER: You think it is an English term, do you? And was no one at all curious about it when you read "Chancellor Kent"? You felt perfectly satisfied to say to yourself, That is an English term, or it means Head of a University, or Chancellor of the Exchequer? Juliette, will you remember to hold the class responsible for it next time; not to be responsible for it, but to hold the class responsible? We have had a number of friends of Irving mentioned, and friends of his club. What was the name of that club?

PUPIL: The Bread and Cheese Club.

TEACHER: Was Bryant there?

PUPIL: Yes; Oliver Wendell Holmes and Morse.

TEACHER: Was he a member of the original club?

PUPIL: Later on.

TEACHER: Morse made what discovery?

PUPIL: Telegraph.

TEACHER: It was a club composed of men of varying talents. Have you ever heard of another club where the men got together and talked of their professions, literary things, and perhaps introducing into their number men of other professions,—famous clubs?

PUPIL: Longfellow, Lowell and Hawthorne.

TEACHER: I do not believe Hawthorne was a member.

PUPIL: Benjamin Franklin.

TEACHER: You come by and by to two or three very famous clubs where men gathered to talk about literature and their professions.

PHILIP: That one—the Hartford Rest?

TEACHER: Where do you hear of them,—well, Everett, anything else about these men?

PUPIL: They were mostly poets, I think, and they lived in and around Hartford, and they formed a club; they were not afterwards known, they never became very great writers.

TEACHER: There were some very well known writers; and that little crowd of men did form a club.

PUPIL: We don't read their poetry very much now.

TEACHER: No, rather as a matter of curiosity; the crowd of men I have in mind you will come across soonest is Oliver Goldsmith and Samuel Johnson, in England.

I want to announce the work for next time, and I want to hand back to you the themes I have corrected, and I shall ask you to bring them next time so that we may enter our misspelled words in our books. The work for next time is to take a portion of the chapter on Bryant, read as far, please, in that chapter, as the discussion of American literature at the time Bryant wrote, on page 176; that covers practically the whole of Bryant's life, and leaves for another time only the discussion of Bryant as a writer.

The first word misspelled is the word "really," the next is the adverb "too", the third is a new word, the word "frivolous." How do you spell that word?

PUPIL: F-r-i-v-i-l-o-u-s.

TEACHER: How will you put it down, Frederick?

FREDERICK: F-r-i-v-o-l-o-u-s.

TEACHER: Another word, "tantalize"; George Meyer, how are you going to write that?

GEORGE: T-a-n-t-a-l-i-z-e.

TEACHER: The class may pass back to your own room, and not back to my room.

SELECTION FROM THE LESSON ON "THE LADY OF THE LAKE" (FOURTH CANTO)

TEACHER: That is as far as you went; a good place to stop, in one way; why?

PUPIL: Most exciting.

TEACHER: An effective, dramatic moment. Anyone who has any further light to give on the characters of these people we are speaking about? do you know any more of them than you did last time?

PUPIL: Yes.

TEACHER: Of whom?

PUPIL: Roderick Dhu.

TEACHER: What?

PUPIL: He can be very hospitable and courteous, when he likes.

TEACHER: Anything else?

PUPIL: When he gave the signal, and the men jumped from the bushes,—he had promised to take Fitz James to the lowlands, and he had him right in his power, and he could have killed him if he had wanted to.

TEACHER: What did that show,—the fact that he didn't?

PUPIL: That he was true to his word.

TEACHER: Truth and courtesy. What else?

PUPIL: Sense of fairness.

TEACHER: What else? Generosity?

PUPIL: Yes.

TEACHER: Anything else, Miss F.?

MISS F.: Fitz James shows *his* fearlessness when he says to Roderick he isn't afraid of him—

PUPIL: I think also when he gave this ring to this girl.

TEACHER: That was fair and gracious, too. Anything more?

PUPIL: He was a warrior too,—where he says he has always been used to fighting, and will trust to his sword.

TEACHER: And there is something else, something so fine that other characters talk about him; where were the women and children?

PUPIL: On the island. (*Laugh.*)

TEACHER: Yes, all measures taken for their protection. As a rule, do the characters seem lifelike?

PUPIL: Yes.

TEACHER: Which is the most lifelike one to you, Mr. J.?

Mr. J.: I think Fitz James.

TEACHER: How many suitors has Elaine, by the way.

PUPIL: Three.

TEACHER: Who are they?

PUPIL: Graeme, Roderick Dhu, and Fitz James.

TEACHERS: Are those men distinct, three suitors or three distinct men?

PUPIL: Three distinct men.

TEACHER: I am going to ask you to write about this next time, so think about it, please. From the beginning has the story flagged, or has it gone on rapidly?

PUPIL: I think it has gone on rapidly.

TEACHER: No halt at any place, nothing to retard the story?

PUPIL: No.

TEACHER: What are some of the scenes that stand out in your mind through the story?

PUPIL: You mean the one I remember best?

TEACHER: Yes, the one you remember best.

PUPIL: This last scene where Sir Roderick—

TEACHER: What happened?

PUPIL: Where the men sprang out of the bushes.

TEACHER: One of the most dramatic points in the story. Anything more?

PUPIL: The return of Roderick in the First Canto.

TEACHER: The return of the war boats, the springing of the men from the bushes at the whistle; Mr. V., give me another scene.

Mr. V.: The crazy woman.

TEACHER: All right, what about her?

Mr. V.: Where Murdock tries to kill Fitz James,—where he is going to kill the crazy woman—

TEACHER: Call her Blanche, if you like. What else?

PUPIL: Her song.

TEACHER: Yes; what other scene, one of the best in it, no one has spoken of it.

PUPIL: I think the quarrel between Malcolm and Roderick.

TEACHER: Yes, it isn't very long, is it?

PUPIL: When Douglas refuses to allow Ellen to marry Roderick.

TEACHER: That is a moment only; I want something a little more lengthy, if possible.

PUPIL: Where Ellen first meets the stranger in the boat.

TEACHER: What else, how does the story open?

PUPIL: The hunt.

TEACHER: A good picture of the hunt, wasn't it well told? What makes the hunt so interesting, Miss P.?

Miss P.: So real.

TEACHER: Where does your interest focus itself?

PUPIL: On the deer.

TEACHER: After that?

PUPIL: On the hunt?

TEACHER: Yes.

PUPIL: On the horses and dogs.

TEACHER: The incident of the hunt, the return of the war boats, the whistle of Roderick, the death of Blanche, and so on. Do the incidents that happen seem probable, Miss H.?

PUPIL: I do, for that time.

TEACHER: Anything that seems at all forced?

PUPIL: Yes.

TEACHER: Did they happen in a natural almost necessary way? anyone think anything was forced?

PUPIL: I don't think those Highland soldiers were apt to lie in the bushes, that way.

TEACHER: What sort of warfare did they have; anyone else?

PUPIL: ———.

PUPIL: I think it was kind of foolish the way Fitz James said he would fight the whole clan.

TEACHER: Does that bring out anything about Fitz James that might have been put in purposely?

PUPIL: It was just said for effect; he didn't mean it.

TEACHER: Yes, possibly.

PUPIL: Where Blanche was running around all the time; I don't think a crazy woman would be apt to be running around like that.

TEACHER: What had they done to the women and children?

PUPIL: Sent them to this island.

TEACHER: Yes.

PUPIL: I think it is improbable that she got back her reason.

TEACHER: Isn't it possible?

PUPIL: I think it is improbable that Fitz James swears to avenge her, a stranger.

TEACHER: Wait a moment, can anyone defend that?

PUPIL: That was one of the principles of chivalry at that time.

PUPIL: Would he be apt to do it for a mad woman?

TEACHER: Would that be an especial charge to his chivalry?

PUPIL: Yes.

PUPIL: And because of the thing he knew had driven her mad.

PUPIL: Isn't it improbable that Fitz James should not recognize Roderick if he was so against him?

TEACHER: Wait one moment—

PUPIL: He had been driven from the court in the time of James' father.

TEACHER: Yes; what is the verdict, that the incidents are probable or not?

PUPIL: Probable.

TEACHER: Who thinks they are?

PUPIL: Some are and some are not.

TEACHER: We will see; hold your judgment until the end, and see. How much is description used in the story, Mr. T.? Is there very much?

MR. T.: Quite a little.

TEACHER: For what did it seem to be put in?

PUPIL: I think one place the Canto starts very quietly, and then the clan gathered in the fiercest preparation, terrible oaths, shows contrasts.

TEACHER: Is it put in then, just as a scene, or for some distinct purpose?

PUPIL: Distinct purpose.

TEACHER: And in this case it was?

PUPIL: Contrast.

TEACHER: What other descriptions?

PUPIL: Nature.

TEACHER: Very much space taken up with descriptions of nature?

PUPIL: Yes.

TEACHER: Have you a pretty fair idea of the country?

PUPIL: Yes.

TEACHER: Better from the poem than from pictures, I think. Why, Miss P., is as much space given to description and country?

MISS P.: I think it would be necessary, especially when warfare is going on.

TEACHER: Kind of thing that happens depend on country?

PUPIL: Entirely.

PUPIL: Scott was a lover of nature.

TEACHER: For itself?

PUPIL: Yes.

TEACHER: Do you think the descriptions show a familiarity with the country?

PUPIL: Yes.

TEACHER: What makes you think so?

PUPIL: The names are correct.

TEACHER: That is true.

PUPIL: He has the location of very small matters that others who are not familiar would not have.

TEACHER: Something more?

PUPIL: He seems to know how far it is from one place to another.

TEACHER: Geography. Something more? Superstition used much in this story?

PUPIL: Yes.

TEACHER: Where and how, Miss W.?

MISS W.: A great deal of prophecy, whether they should go out to battle was decided by superstitious means.

TEACHER: Yes, by superstitious means.

PUPIL: And what the result of the battle would be is decided before.

TEACHER: And what else? Some other little touches of superstition?

PUPIL: The cave.

TEACHER: Superstition comes in there; what else?

PUPIL: I think the cross.

TEACHER: What about the cross, particularly?

PUPIL: Bolt struck by lightning; sacrifices.

TEACHER: Sacrifices sound almost like—? Modern times?

PUPIL: Greek.

TEACHER: Greek and Roman,—back a little farther.

PUPIL: Old Testament.

TEACHER: Yes; where else?

PUPIL: I think a lot of superstition where the sword fell.

TEACHER: Yes.

PUPIL: Allen's prophecy.

TEACHER: Something more? Do you remember Brian's curse? So far in the story have we had any hints at all as to the kind of man who wrote it, anything that gives you any idea of Scott himself, his likes and dislikes?

PUPIL: He liked nature and animals.

TEACHER: What else?

PUPIL: Outdoor sports.

TEACHER: Outdoor sports; what else?

PUPIL: Clan life.

TEACHER: Clan loyalty, all right, what else? What kind of man was he? What does he admire in men, in women?

PUPIL: Bravery.

TEACHER: What else?

PUPIL: Fairness.

PUPIL: Chivalry.

TEACHER: What else?

PUPIL: Generosity.

TEACHER: What else, Miss S.?

Miss S.: Hospitality.

PUPIL: Truth, constancy.

PUPIL: I was going to say beauty.

TEACHER: Yes.

PUPIL: Physical strength; I think bravery in women too, Ellen sitting alone in the cave.

TEACHER: Yes, practically alone, save for whom?

PUPIL: Allen.

TEACHER: Who is Allen?

PUPIL: The aged minstrel.

TEACHER: If Scott loved that sort of thing, what sort of man is he?

PUPIL: Good sort of man.

TEACHER: As a whole, what sort of story, then, is it, is it interesting?

PUPIL: Yes.

TEACHER: What is it filled with?

PUPIL: Action.

TEACHER: Does Scott love action?

PUPIL: Yes.

TEACHER: Do you know anything about his life?

PUPIL: He was lame.

TEACHER: Would he have an exaggerated appreciation, perhaps for action?

PUPIL: Yes.

TEACHER: Who are his followers,—what people have written stories full of action after Scott—can you think of any?

PUPIL: Cooper.

TEACHER: Yes, why is Cooper particularly like Scott?

PUPIL: Scenery.

TEACHER: Is scenery essential?

PUPIL: Yes.

TEACHER: What else?

PUPIL: Characters.

TEACHER: Somewhat the same ideals and characters.

PUPIL: Civilization,—the way they kept together.

TEACHER: Rather wild civilization; anyone else as a possible follower?

PUPIL: Stevenson.

PUPIL: Washington Irving.

TEACHER: Washington Irving?

PUPILS: No.

PUPIL: Henty.

TEACHER: Henty? Well, perhaps, yes, in some respects. Whom else? A Frenchman maybe you might know.

PUPIL: Dumas?

TEACHER: Yes.

Next day's lesson Fifth Canto finished, and read the Sixth. I want to see if next time you can tell me what particular task Scott set himself when he wrote this story, etc.

Measure the questions and answers in these two lessons by either of the accepted standards of English instruction—appreciation and oral expression—and it is apparent that the lesson with the smaller number of questions has the advantage. In the matter of oral expression alone, it seems that the children in the first lesson were trying throughout to express themselves, and sufficient time for that purpose was accorded them. In the second lesson there was a steady running fire of questions which the pupils merely punctuated with the briefest answers, such as: the hunt; so real; on the deer; on the hunt; on the horses and dogs; I do for that time; yes; yes, possibly; sent to the island; yes; distinct purpose; contrast; nature; yes; yes; entirely; yes.

In these two lessons, at least, I believe there is a rather close relation between the number of questions and the quality. This relation might not exist, however, in a comparison of other lessons.

The science lesson with eighty-six questions is quoted in part on page 79; the science lesson with one hundred and twenty-two questions on page 19; the history lesson with forty-one, on page 17; that with sixty-six on page 52 and that with one hundred and forty-two on page 60. Applying to these groups the standards of science and history instruction in particular, or standards of class instruction in particular, or standards of class instruction generally, I believe we are forced to the conclusion that there is considerable room for doubt regarding the relation of the number and the quality of questions; that the number of questions is not an absolute criterion of the quality; that the number is not a *full* measure of the efficiency of instruction. Nevertheless, the fact remains that A LARGE NUMBER OF QUESTIONS (barring modern language and developmental lessons) IS A VALUABLE INDICATOR, A PROMINENT SYMPTOM, OF BAD INSTRUCTION. While number is not the full measure, it is a very LARGE FACTOR IN ESTIMATING EFFICIENCY, LARGER PROBABLY THAN ANY OTHER SINGLE FACTOR.

CHAPTER III

EFFICIENCY OF INSTRUCTION AS MEASURED BY A SMALLER NUMBER OF QUESTIONS

There are some indications in Chapter II that the lessons with the smaller number of questions do not show the improvement in efficiency that it would be fair to expect. I believe the study of the subject cannot be complete until we have pushed the investigation a little further to determine if possible the reasons why the smaller number of questions does not contribute to greater efficiency in teaching.

In promoting this inquiry it seems expedient to consider only the lessons in Group I (those containing fewer than ninety questions) and to measure them first of all by the same standards of instruction as were applied in Chapter II, beginning with page 17. In some instances the analysis of the stenographic reports will be more minute in an effort to trace the reasons for lack of efficiency.

I. *Applying the measure of nervous tension.*

Needless to say the lessons in Group I do not fall under the censure applied to those in Group II. The degree of nervousness manifest in the practice of asking from sixty to ninety questions is not comparable with a speed of from ninety to one hundred and ninety questions in a class period.

II. *Applying the measure of pupil activity.*

It is reasonable to expect that in lessons containing the smaller number of questions there will be better reactions by the pupils: that if the teacher asks sixty instead of one hundred and sixty questions, the answers will be correspondingly more complete and the pupils will be given time for thought and for dignified expression. We have every reason to believe that pupil activity will rank considerably higher for Group I than for Group II. The conclusions are shown below:

TABLE V

SHOWING PUPIL ACTIVITY IN THE LESSONS OF GROUP I AND GROUP II

Group I	Number of questions	Pupil activity	Group II	Number of questions	Pupil activity
1	41	25	1	90	41
2	66	42	2	94	38
3	69	40	3	125	41
4	70	30	4	142	20
5	73	71	5	94	35
6	74	56	6	129	56
7	86	24	7	122	20
8	70	10	8	105	39
			9	165	33
			10	123	33
			11	161	30
			12	196	42
Average		37¼	Average		35⅔

Estimated in percentages we find the average amount of pupil activity reflected by the lessons of Group I to be 37½ per cent; the average of Group II, 35⅔ per cent: the difference is scarcely appreciable. From this it is evident that even with the smaller number of questions, the teachers still manage somehow to do a very large share of the talking during the hour. This fact is a severe reflection upon the nature of the teacher's questions, for if he cannot stimulate some degree of active participation in the work of the hour by prodding his pupils seventy-five times, he may well look to the content and the organization of his lesson, and to the nature and form of his questions. There is something wrong—something that he alone can remedy. Furthermore, it must be remembered that 37 per cent of pupil activity means activity of the pupils collectively—anywhere from twenty to fifty pupils—the relative amount per pupil being infinitesimal.

III. *Applying the measure of over-emphasis upon memory work.*

Selecting from preceding tables a new grouping to show the estimated number of questions that draw for their answers directly upon memory of a text-book lesson prepared at home, we have a condition that is reflected in Table VI.

Table VI offers indication of several truths regarding class-room practices. In the first place, in the history and English lessons there are *more* memory questions indicated in Group I than in Group II. There is, then, no indication that teachers, who by chance or by custom ask fewer than the average number of questions, are giving any serious consideration to processes of intellectual development. Lesson number two in Group I offers illustration in point. When from a total of sixty-six questions there are sixty based directly upon repetition of the text-book, it is a matter of rather fine discrimination to determine what may be the real values of such a piece of work. This lesson passes the first test, of comparatively few questions (66); although it does not rank especially high, it does measure above the average in the matter of pupil activity (42 per cent); now we discover that it falls irretrievably under the third test when it confesses that the 42 per cent of pupil activity reflects activity in repeating words of the text lesson.

TABLE VI

SHOWING THE NUMBER OF MEMORY QUESTIONS IN GROUP I AND GROUP II

Group I	Total number of questions	Number of memory questions	Group II	Total number of questions	Number of memory questions
1. History........	41	29	1. History.......	90	75
2. "	66	60	2. "	94	74
3. English........	69	39	3. "	125	87
4. "	70	26	4. "	142	103
5. "	73	33	5. English.......	94	26
6. "	74	61	6. "	129	65
7, Science........	86	58	7. Science.......	122	92
8. Mathematics...	70	Developmental lesson	8. Latin.........	105	89
			9. Mathematics ..	165	Developmental lesson
			10. Modern Language...	123	Developmental lesson
			11. "	161	
			12. "	196	196

Lesson number six in Group I measures well in the first test (only 74 questions) and also in the second text with pupil activity comparatively high (56 per cent). Then when we read in Table VI that of the entire seventy-four questions, sixty-one are "on the book," we readily see that such activity, while better than *no* active participation by the pupils, is a long way removed from the ideal in practice. The teacher's educational aims, his own powers of organization, and his methods all stand revealed.

Lesson number three in Group I gives promise of better things: Relatively small number of questions (69); pupil activity (40 per cent); very few memory questions (39), the remaining forty questions belonging to the class of questions that stimulate individual reflection. Lesson number five in Group I also stands well, with pupil activity the highest in the whole series and the memory work reduced to thirty-three questions. In these two lessons we may look for something in the way of really good questions. They will be referred to somewhat later.

It is also apparent from Table VI that the figures have a certain pertinent relation to subject matter. There seems to be higher speed in questioning in the history lessons than in the English, and there is more memory work done in history than in English. In Group I, the percentage of memory questions in history is 83 per cent, English 55 per cent; Group II, history 75 per cent, English 40 per cent. These deductions have been substantiated in the larger number of observations made but not stenographically reported. No other subject in the curriculum seems to adhere to the text-book so persistently for content, organization, and method, as history: no other subject confines itself so steadfastly to a struggle with facts. Since history instruction seems to embody most of the evils of extreme text-book work I will make use of the history reports for quotations and for further application of the test of over-emphasis upon memory work. Portions of three history lessons are quoted below. The first is a seventh grade lesson, which began with a review of some facts regarding the origin of the Constitutional Government of the United States. The advance lesson—the portion quoted—concerned the acts of the President and Congress in sending supplies to the earthquake survivors in Sicily.

TEACHER: *Just how did Congress go to work to approve what the President did?*

PUPIL: They wrote a document—

TEACHER: *What do they call that document?*

PUPIL: A bill.

TEACHER: *Irving?*

IRVING: They wrote down that a certain amount of money was to be sent to the sufferers in Sicily, and then the President—

TEACHER: *Now wait a moment; let us suppose—how many parts are there to Congress?*

PUPIL: Two.

TEACHER: *What are they?*

PUPIL: House of Representatives and the Senate.

TEACHER: *Now, you say that they had a bill, we will say in the House. Do you know how much they asked for?*

PUPIL: Two-thirds.

TEACHER: *How much money?*

PUPIL: $300,000.

PUPIL: $500,000.

TEACHER: *Well, it was* $800,000 *to be correct; in the House they wrote that in the bill, to give it to the Italian sufferers. What was done after they had read that?*

PUPIL: There was a vote in the House, and there it came out that two-thirds were for it; everyone signed his name, and it went to the Senate, and if there were two-thirds in the Senate it became a law.

TEACHER: *Yes.*

PUPIL: Miss A. what would happen if the House of Representatives got two-thirds for it, and the Senate two-thirds against it, and the President—

TEACHER: *It has to go before both houses; when the House wants to get something done in the Senate, and the Senate is against it, they have to talk to them and try to persuade them. Where did you find two-thirds?*

PUPIL: I didn't find that at all, Arthur said it.

TEACHER: *Where did you find that, Arthur?*

ARTHUR: It said in the Constitution two-thirds had to vote.

TEACHER: *Look that up again.*

PUPIL: Two-thirds of all persons present.

TEACHER: *That was the way it should have been. The fact was that the President sent his message to Congress Monday morning. Why did he wait until Monday?*

PUPIL: Congress was not back yet, just got back Monday.

TEACHER: *He asked Congress to pass this law, and they were undecided how much they wanted to give, so it was felt they ought to wait, and the next day Congress signed the bill sent to them. We have been talking about Congress, what is Congress made up of?*

PUPIL: The House of Representatives and the Senate.

TEACHER: *Yes; and the name of the men who are in the Senate?*

PUPIL: Senators.

TEACHER: *What are the men in the House called?*

PUPIL: Representatives.

TEACHER: *What is another word you hear them called?*

PUPIL: Representatives to Congress.

TEACHER: *They were called Congressmen; how many have heard that word?*

(Hands.)

TEACHER: *Arthur, did you find that clause in the book?*

ARTHUR (reading): "Every bill which shall have passed the House of Representatives and the Senate, shall, before it becomes a law, be presented to the President of the United States; if he approve he shall sign it, but if not he shall return it, with his objections, to the House in which it shall have originated.''

TEACHER: *Does it say that it has to pass two-thirds?*

ARTHUR: I was just coming to it, if it goes back it has to be two-thirds.

TEACHER: *The first time it has to be a majority vote. How many found out how many men there are from New York State in this Congress?*

PUPIL: In the House of Representatives, New York can send six.

(Hands!)

TEACHER: *There seems to be a disagreement. John?*

PUPIL: New York can send two to the Senate and two to the House of Representatives.

(Hands!)

TEACHER: *Still seems to be a disagreement.*

PUPIL: In the House of Representatives New York six, and Rhode Island two.

(Hands!)

TEACHER: *Where do you find that?*

PUPIL: That was in 1789.

TEACHER: *It isn't the same now?*

PUPIL: No.

TEACHER: *Irving?*

IRVING: New York thirty-seven to the House of Representatives and two to the Senate.

TEACHER: *You said in* 1789 *they sent to the Senate?*

PUPIL: Six from New York and one from Rhode Island.

TEACHER: *Listen. To the Senate in* 1789 *New York sent how many?*

PUPIL: Two.

TEACHER: *And Rhode Island?*

PUPIL: One.

(Hands!)

TEACHER: *To the Senate?*

PUPIL: Two from New York.

TEACHER: *In* 1909 *how many does New York send to the Senate?*

PUPIL: Thirty-seven.

TEACHER: *To the Senate, where did you find your facts?*

PUPIL: Irving said it.

TEACHER: *Irving, what did you say?*

IRVING: I said New York two to the Senate.

TEACHER: *And Rhode Island how many to the Senate?*

PUPIL: Two.

TEACHER: *That was away back in* 1789; *in* 1901 *how many has New York in the Senate?*

PUPIL: Two.

TEACHER: *And Rhode Island?*

PUPIL: Two.

TEACHER: *Then that hasn't changed?*

PUPIL: In the Constitution it said only two.

TEACHER: *Look that up in the Constitution after class.*

PUPIL: To the House of Representatives they sent as many as counted on the population, I think one man to every 30,000.

TEACHER: *Now we will talk about the House. What did you find, Claude?*

CLAUDE: Any city can send—

TEACHER: *Answer my question. How many in New York?*

CLAUDE: Six—thirty-seven.

TEACHER: *Thirty-seven in the House. How many in Rhode Island?*

PUPIL: Three, I think.

TEACHER: *Margaret?*

PUPIL: Two.

TEACHER: *What is this about six, Margaret?*

MARGARET: When it was—many years ago—

TEACHER: *I don't hear.*

MARGARET: A great many years ago they used to only send six.

TEACHER: *A great many years ago they sent six; where did you get that?*

MARGARET: Here in the Constitution.

TEACHER: *And what does that mean?*

MARGARET: Whenever they grew bigger—

TEACHER: *Answer this question:*

PUPIL: 1789.

TEACHER: *In* 1789 *they could send six. My question yesterday was, "In* 1909 *how many can you have in New York?"*

PUPIL: I looked and I couldn't find it.

TEACHER: *You found it where, Irving?*

PUPIL: I found it in the almanac.

TEACHER: *I said that you could find this question in two places.*

PUPIL: I found it in an almanac which said for the House of Representatives—it had six men down—it said 1907—

TEACHER: *Bring that to me, I want to see it. Carlton, you said something about* 195,000 *men, what was it?*

CARLTON: Every state sent one man to every 30,000.

TEACHER: *Where did you find that?*

CARLTON: In the Constitution.

TEACHER: *That is, they were going to divide the United States into districts with* 30,000 *in each one.*

PUPIL: No, 30,000 of the population in each state, they could send one man.

TEACHER: *When?*

PUPIL: In 1789.

TEACHER: *Then?*

PUPIL: I thought it was 300,000.

TEACHER: *You look that up.*

PUPIL: Why did they change and send 37 to the House?

TEACHER: *I was wondering why someone didn't ask that. They started with six and ended with thirty-seven.*

PUPIL: The population has increased and the number of men would increase, it would get up to thirty-seven.

TEACHER: *Let me see, in New York State there are about* 7,000,000 *people; according to the Constitution at first we were going to have one man for every* 30,000; *how many in New York?*

PUPIL: 2,000.

TEACHER: *And other states* 1,000. *Why wouldn't that be a good thing, to have* 200 *from this state and* 100 *from another—*

PUPIL: They would get—

TEACHER: *How often do they take a new census?*

PUPIL: Every ten years.

TEACHER: *What year do you happen to know?*

PUPIL: 1900, and the next year 1910, and 1920,—every ten years.

TEACHER: *And then they keep enlarging it, until for every* 195,000 *they have a representative. Can you say about how many representatives we have in New York state? How great a population have we?*

PUPIL: 4,000,000.

TEACHER: *Take these down and tell me to-morrow how many we have for New York State alone.*

PUPIL: Why could Rhode Island only send two representatives?

TEACHER: *Answer that, Herbert.*

HERBERT: Because the population has not increased enough.

TEACHER: *So they can have only about two representatives. I am going to ask this question for you to think over and tell me to-morrow: You said that no matter how large a state was, whether large or small, whether it had one thousand or millions in it, each state could have two men in the Senate, but it is according to the population in the House. Which do you think is the fairest, the fairer way, if you could have just one? To-morrow we have no lesson to prepare for history, I will ask you just to think over this question.*

The next quotation is from the lesson of a second-year high school class in first-year history. In the preceding two-thirds of the lesson there had been questions upon Themistocles, Aristides, the formation of the Delian League, and some comparison of Delian and Peloponnesian Leagues. Here they begin consideration of Cimon's place in history.

TEACHER: *Who brought about the changes?*

PUPIL: Cimon.

TEACHER: *What did he do?*

PUPIL: After awhile he thought they had too much freedom because some of those islands, like Naxos, wanted to be free; they didn't want to be under this League and he thought the best thing to do was to make them pay a tribute, and not have so much to say in the government, and he reduced them too, just as if Athens were the king and they were all the subjects.

TEACHER: *Exactly.*

PUPIL: Cimon was more of an aristocrat; when he went to walk in the streets he always had two servants with him, and they always had a lot of money to give to the poor people—

TEACHER: *That looked as if he were fond of the people, didn't it? What were Cimon's chief characteristics? I think if you will look it over you will find that he was—?*

PUPIL: He was very patriotic.

TEACHER: *Not only patriotic, but Cimon was a perfectly splendid soldier; who was his father?*

PUPIL: Miltiades.

TEACHER: *And he had inherited his father's interests, he had the ideas of discipline which a splendid general will have,—that all must obey. His ideas were liberal and generous enough, but when he considered Naxos' disobedience,—"If you do not obey, you must be punished." He thoroughly sympathized with Sparta in some of her training. The Spartans had a great partiality for Cimon. After Aristides' death—and we do not know just how he died—Cimon had command of this League, and what did you find to be the characteristics of this party,—your League is going to be what—?*

PUPIL: General.

TEACHER: *And come out like—?*

PUPIL: An empire.

TEACHER: *In fact, we have been seeing how it was that Themistocles gave the basis for Athens' power, how Athens developed it gradually, then Cimon comes and changes the organization. Let us go back to Cimon. What was Cimon's real aim when he first started it?*

RAYMOND: Cimon, when he started out, was first of all—

TEACHER: *What work is he going to complete?*

PUPIL: The work of—

TEACHER: *Let us look at our map—*

PUPIL: —the work of reorganizing the Aegean cities.

TEACHER: *How far does he accomplish it?*

PUPIL: He does it, then went down to the southern part of the Mediterranean. (Goes to map.)

TEACHER: *He goes up here* (indicating), *starts out and makes up his mind he is going to complete Aristides' work, goes up toward Thrace, and gets those cities under control; he has made up his mind that everybody must join the League, and that he would go in search of the Persian fleet, and see what was left, and what happened, Edward?*

EDWARD: He defeated them in a battle near the River Eurymedon.

TEACHER: *Can you point that out?*

PUPIL: (Goes to map.)

TEACHER: *What are you going to call that river?*

PUPIL: Euri—

TEACHER: *Can you write it?*

PUPIL: (writes) E-r—

TEACHER: *Anyone spell it all?*

(writes) E-u-r-y-m-e-d-o-n.

TEACHER: *What sort of a battle was that?*

PUPIL: Entirely naval,—it didn't tell us in the book—

TEACHER: *Would you like to hear more about it?*

PUPIL: I read all about it.

TEACHER: *If you have, suppose you tell us; that will save a great deal of time.*

PUPIL: In this battle Cimon and his people had a much smaller naval power than the Persians, and didn't think they could win, but came upon the Persians unexpectedly and trampled over them, and lots of Persians were killed, and hardly any of the Ionians, and they conquered them, and right after this battle Persian troops were on shore, and some of them would have liked very much to go fight them, but his soldiers were all tired, and it was a very hard fight with Persia because Persia was a large force, but the soldiers were so anxious to kill as many of the Persians as they could, he let them go, and they went on and Persia fought well, and the Ionians won, but lots of the great soldiers of Athens were killed in this war, and there were more Athenians killed in that war than in any other, and also a great number of Persians killed. Cimon, after having that victory, had freed cities around there, and the Persians thought it was such a great loss—he made the Persians promise not to come within a certain point of the coast of Greece,—

TEACHER: *You wouldn't know that island mentioned there, you haven't had it,—they would stay out of the Aegean sea.*

PUPIL: They said the Persians didn't even come near that island.

TEACHER: *That was a complete victory?*

PUPIL: Yes.

TEACHER: *Do you know how the Athenians commemorated that victory? The way they commemorated their victories?*

PUPIL: Didn't they put up statues on the tops of buildings?

PUPIL: By the Olympian games.

TEACHER: *What they did was to build a very beautiful temple which you will know more about next week,—and they put the Temple of the Winged Victory right on that corner. You know a good many of the statues do you? the one with the wings? Victory, when she received the word, would fly home to tell the good news. Now it wouldn't be necessary for Victory to have wings any longer, they had completed their conquests, and they considered that it was to be no longer necessary for Victory to have wings, and that little temple of the ——— ——— was the one of the Wingless Victory.*

Cimon did a great many other things after that. We shall not have time now to talk of that. I want you in your advance work to try and keep this in mind—What it was that Themistocles did toward the building up of the Athenian greatness, what it was that Aristides did. And I have *a question for next time: Do you think Themistocles could have formed the Delian League; what Cimon did, and how he obtained a strong hold and strong command, and then give your reasons for the downfall of Cimon,—What was it, by the way?*

PUPIL: Help to Sparta.

TEACHER: *And then who was it came into command?*

PUPIL: Pericles.

TEACHER: *There was one man in between—*

PUPIL: Por—

TEACHER: *Ephialtes.*

PUPIL: Yes.

TEACHER: *And Ephialtes was assassinated, and then Pericles came into power. Now, in your advance lesson, I want you to review what each man did toward the rebuilding of Athens' power, and work in your text-book pages* 217-223. *I want you to do some careful map-work, and be able to tell me about the different districts that belong to Athens, how great her power was.*

This third selection is from a second-year high school lesson in second-year history. The lesson had followed closely the struggles of the Carolingians for supremacy in Western Europe. I quote the portion treating of the coming of the Mohammedans.

TEACHER: *Who were they* (the Mohammedans); *what do you know about them?*

PUPIL: They were a band founded by Mohammed, who was the man from Mecca farther in the East; and he founded a new religion called the Mohammedan religion; and he said it was glory to die in battle and thought that anyone who died by the sword would be greater than anyone else and would probably go to the heaven that they imagined. The Mohammedans were very zealous and they conquered a great deal of the land around the Mediterranean Sea and on the Eastern border of the Mediterranean; and they tried to conquer the Roman Empire in the west.

TEACHER: *Would you say "Roman"?*

PUPIL: It was more a German Empire.

TEACHER: *Did they really try to conquer Rome; did they approach the city?*

PUPIL: No. When they invaded the Western World, the western part of the Roman Empire, it was thought at the time that they would probably conquer it, but Charles Martel with his soldiers, the German soldiers, came and defeated them.

TEACHER: *Defeated whom?*

PUPIL: The Mohammedans.

TEACHER: *Did they defeat Mohammed?*

PUPIL: No, because he was not in the battle.

TEACHER: *Where was he?*

PUPIL: He was dead.

TEACHER: *Mohammed has passed away but his followers are still conquering in his name.*

PUPIL: After that the Mohammedans did not have as much power as before. They tried to invade other countries.

TEACHER: *Does any girl know anything about this man Mohammed?*

PUPIL: He was an Arabian; he was born at Mecca.

TEACHER: *Come and find Mecca on the map.* (Pupil indicated.) *Yes; down there on the west coast of Arabia—a little lower down than you pointed. An Arabian who became possessed with the idea of founding a new religion, a merchant himself, the husband of a woman who was interested in merchandise and in caravans; and he traveled far and near as a merchant would, up and down the coast of the Mediterranean perhaps and the Red Sea. And there he became very much impressed with the idea of one God. Perhaps he learned it from the Jews, bcause the Arabians did not really believe in one God. Their religion was a polytheistic system, attempting to explain some of the mysteries of Nature. But in some way he became impressed with the idea of one God, the same as the Jews understood when they said Jehovah. And he became so impressed with that, that he began to teach that idea to his family. Perhaps his wife was his first convert. We are not quite sure. But anyway in the course of time he had a few followers; and after his death many people flocked to this belief and became convinced that there was some truth in it at least. Then they soon came to conquer in the name of what?*

PUPIL: In the name of Mohammed.

TEACHER: *In the name of his teachings: in the name of their religion. Probably love of plunder had something to do with it and the love of gain; but that was at the base of it all the time—conquering in the name of this new religion called Mohammedanism, they soon entered most of the cities along the northern coast of Africa, and made their way into the Strait of Gibraltar. This takes me five minutes to tell. How long do you think it took them to do this?*

PUPIL: A century or two.

TEACHER: *We pass quickly over these periods. You girls might get confused and think this happened in a few years. Mohammed was dead a long time before they attempted to cross into Europe. Now where did they attempt to cross into Europe?*

PUPIL: The Strait of Gibraltar.

TEACHER: *What people would they have to conquer in Southern Spain before they could go very far?*

PUPIL: The Visigoths.

TEACHER: *You remember some days ago we talked about the Visigothic State, the first German state to be carved out of these chaotic states. Later this German state was attacked on the South by whom?*

PUPIL: By the Saracens.

TEACHER: *We have come to them at last; these followers of Mohammed. They had already been attacked on the North by whom?*

PUPIL: The Franks.

TEACHER: *The Visigothic State going to pieces, as it were, under the attacks of the Franks from the North and the Saracens from the South. They slowly pushed their way, these Saracens, up through Spain into France, threatening Christendom. If they could spread their religion over Europe what other religion must give place to it?*

PUPIL: Christianity.

TEACHER: *There must have been great concern among the Christians when they realized what was coming, what the dangers were. Who was strong enough to turn them off?*

PUPIL: Charles Martel.

TEACHER: *The Frankish soldiers you might say. Where was that great and decisive battle fought when he succeeded in turning back the Mohammedans and probably saving Europe?*

PUPIL: Poitiers.

TEACHER: *Sometimes called the Battle of Tours. Where is it?* (Pupil indicates on map.) *You might say Southern France near the center. Can you tell me why we look upon the battle of Poitiers as one of the great decisive battles of the world, why we should remember it?*

PUPIL: At the battle of Poitiers Charles Martel defeated the Saracens, the Mohammedans; and only for his defeat of them the religion of the Germans would have been changed from Christian to Mohammedan because they were very strong, and they would have forced their religion upon the Romans and the Christians, but since Charles Martel defeated them Christianity was spared and the people remained just the way they had been before.

TEACHER: *That is pretty strong. People never remain just as they had been before. Christianity was saved and probably we may say Europe was saved from Mohammedanism. Now, was that something to be desired, that Europe should be saved from Mohammedanism?*

PUPIL: Yes.

TEACHER: *Why do you say that? Mohammed taught the belief in one God; he taught many good things. By the way, what was the Bible called by the Mohammedans?*

PUPIL: The Koran.

TEACHER: *It is full of fine teachings, many of them as fine as you can find in the Bible. Why do we say it was a good thing for the world?*

PUPIL: The greater part of them were plunderers and ravaged.

TEACHER: *So did the Germans. Go on with your answer, Miss A.*

PUPIL: They thought it was a glory to be killed, it was considered good to be killed in battle and this was carried to such an extent that it became cruel—

TEACHER: *Do you think the Germans were very mild or gentle? Why do we think this battle of Poitiers was such a great benefit; why was the saving of Christianity to the world better than if it had been converted to Mohammedanism?*

PUPIL: Christianity teaches that no blood should be shed; but Mohammed taught that it is well that you should die by the sword in battle.

TEACHER: *One of the ideals of Christianity was finer than the ideals of the Mohammedans. In this respect that might be. We are getting at it, I think. Miss F., another reason.*

MISS F.: The Mohammedans were not as civilized as the Christians were.

TEACHER: *I do not know about that. If you look into them, they had better schools than the Christians had at that time. It is said there were better schools among the Mohammedans,—science was more advanced among the Mohammedans. What do you say?*

PUPIL: We can take those countries to-day, and we can see they are not nearly as civilized as we are; and if they had substituted their religion, likely Europe would be just the same.

TEACHER: *Where do we find those people to-day?*

PUPIL: Arabia.

TEACHER: *Their civilization to-day we think is far inferior to ours. Now when you compare the civilization that has developed under the teachings of Mohammed with the civilization that has developed under the teachings of Christianity, which do we think is very much better?*

CLASS: Christianity.

TEACHER: *When the two are measured side by side we feel that the ideals of the Christians were finer than the ideals taught by the Mohammedans; and the two civilizations of to-day are the very best proof that we have. I think that is the way to get at that. Who was the greatest of all the Carolingians?*

PUPIL: Charles the Great.

TEACHER: *Describe him.*

In these selections there is representative work in history instruction. That the lessons differ materially as we apply to them different standards is apparent in a casual reading, but they are typical of the kind of history recitation that may be observed in thousands of class rooms. Such text-book work is paralleled in other subjects in which the book is rigidly followed, but in most other subjects there are some extenuating circumstances, such as an occasional laboratory period or some incidental blackboard work. In history the evils of book work, hence verbal memory work, seem most pronounced. There is very little reflection called for in the questions quoted in the three lessons, and whether the lesson reflects many questions or few, their nature is invariable—a memory question of a previously prepared lesson. In connection with the study of history it is interesting to read the aim for the teaching of history as found in the Report of the Committee of Seven. This report sets the following standards for history instruction: it trains for citizenship; it cultivates judgment; "it is a great instrument for developing in the pupil capacity for seeing underlying reasons and for comprehending motives"; it "develops capacity for effective work, not capacity for absorption alone"; it helps to develop "the scientific habit of mind"; it helps to inspire a pupil "with a love of reading which will prove a priceless treasure to him."[1] How are some, or any, of these aims for the study of history, or similar ideals for the study of any subject whatever, to be realized by the current practices of spending all the time available on hearing the text?

If you ask teachers of history why they are teaching it, the most customary answer is that "history develops judgment." In the hundreds of class rooms where I have made observations of the questioning, I have found very few questions so framed by teachers of history that they called for any individual judgments. Psychology teaches us that the only way to train the ability to form historical judgments is through exercise. I have found such questions as this: "Was the king right in imposing the stamp tax upon the colonists?" This sounds like the appeal for a possible judgment by the pupils, but it cannot be a real judgment when the pages of all the texts distinctly reveal marked censure of the king. "In what respect would you call the War of 1812 a second War of Independence?" appears to be a question involving the pupil's judgment; but when the text-book lesson prepared at home contained the sentence, "The War of 1812 has been often and truly called the Second War of Independence, which should be understood to mean not merely independence of other nations, but of the conditions of colonial life," the answer was obviously colored by the author's statement, and hence it could not be a judgment of the pupil.

It seems a paradox to say that there are times when a judgment question is not a judgment question, but if we attempt to analyze so-called judgment questions in history we can find many illustrations to corroborate the statement.

Analysis of the six stenographic lesson reports on history reveals the fact that, by classifying as a judgment question every one that could possibly involve the element of judgment, the highest attainment is twenty-eight in a total of one hundred and twenty-five, and twenty-nine in a total of one hundred and five,

[1] The Study of History in Schools. Report of the Committee of Seven, 1904.

while the lowest record was three in sixty. The following questions from the first mentioned lesson show something of the type of judgment questions used:

TEACHER: The end of to-day's lesson says that certain of the achievements of the Greeks during the period that is treated in the chapter show the sterling qualities of the Greek mind. What does sterling mean?

PUPIL: The very finest.

TEACHER: Any other answer?

PUPIL: Good qualities.

TEACHER: That is rather general.

PUPIL: Best qualities.

PUPIL: Next to the best.

TEACHER: Next to the best? When you think of "sterling" silver as the best?

PUPIL: Gold is better than silver.

TEACHER: Sterling silver is the best of its kind, isn't it? Any other explanation of sterling?

PUPIL: Thorough.

Then follow twenty-four memory questions based upon the text, after which there is a return to the judgment questions in line with the above.

TEACHER: Now, what do you think sterling qualities of mind means here?

PUPIL: That they had high ideals; they were true to them and were great.

TEACHER: A better answer still. What do we mean by "sterling qualities of mind"?

PUPIL: The very highest. They could not be influenced by any other people's ideas.

TEACHER: They were, I think.

PUPIL: I think the people cared to love the best of everything. I think these qualities were at the highest point; they never reached such a refined state before, and everything was the best of its kind.

TEACHER: Any other answer?

PUPIL: The strongest qualities.

PUPIL: They looked for beauty in everything.

Later in the lesson we find:

TEACHER: Do you suppose it takes more thought to write prose than to write poetry? (Some pupils reply "yes" and some "no.")

TEACHER: That would be an interesting question to debate, wouldn't it? They were beginning to think more. What is thinking?

PUPIL: Reasoning.

TEACHER: Sometimes it is a little different from reasoning; you just sit down and remember things that have happened. And how would you describe that?

PUPIL: Reflection.

TEACHER: That is just right. They were coming to reflect upon things; and what was another thing that went with that? As you reflect upon what you have done and upon what you are going to do and upon what your neighbors are doing, and what you think they ought to do, you grow wise. But what is preliminary to that?

PUPIL: You grow mature.

TEACHER: Yes, more mature; that is good.

PUPIL: More critical.

TEACHER: That is just the right word.

Nine memory questions follow, and then:

TEACHER: Herodotus listened to all these tales that were told him. Did they make scientific history, do you think?

PUPIL: Yes.

TEACHER: Would that be accurate, to put down everything that everybody told you? What was the difference between Herodotus and Thucydides; was the man himself upright; did he keep strictly to what he knew was true?

PUPIL: He loved the truth.

TEACHER: Is that a good quality in historians?

PUPIL: Yes.

TEACHER: I think it is one of the very finest cures for gossip, because if once you learn to criticize—this is the critical age, isn't it? If you once learn to criticize the statements that people make, you won't believe everything that is told you by the neighbors. Herodotus believed everything, wrote it all down. Thucydides did not write down everything because he wanted the truth. What was the difference between Thucydides and Xenophon?

The last question called for comparison of facts as also another upon the same topic. "Which do you think had the more military subject, Thucydides or Xenophon?" The remaining judgment questions call for incidental opinions, and are scattered.

Thus at intervals throughout a lesson that was interesting in many ways the pupils were thrown upon their own resources and encouraged to exercise their individual powers of discrimination. It will be noticed, however, that the judgments were largely upon choice of words with reference to historical interpretation. Removing many of the quoted questions from the history setting, one might as easily believe that they were taken from an English lesson.

Unfortunately, I am not able to find in the six history manuscripts before me many questions involving judgments that are more strictly historical, unless we except a few such as the following:

Was that something to be desired that Europe should be saved from Mohammedanism?

Why was the saving of Christianity to the world better than if it had been converted to Mohammedanism?

Do you think that Congress's treatment of Arnold in reference to those charges was justified?

What feature of Arnold's treason do you consider was most reprehensible, most open to criticism?

What might be interpreted as a flag of truce?

Do you think Aristides really meant it (The Delian League) should be a fair distribution of power?

If we cannot find in a fair range of practice any indication of historical judgments, the deduction is obvious that there is a significant discrepancy between the JUDGMENT aim and the MEMORY practice in the teaching of history.

Returning to Table VI we find indications that English lessons are not as slavishly committed to the use of memory questions as history lessons. The type of question that calls for reflection seems to have a distinct place in English work, and many of the memory questions are of the associative type rather than the purely verbal. To illustrate this fact, I will quote at some length from a stenographic lesson on Tennyson's Elaine (third-year English). Leading up to the contrast in character of the Queen and Elaine we find the following questions and answers:

TEACHER: How about that point?

PUPIL: The queen never told him to stay at home, but he happened to look at her and catch her eye, and he thought she didn't want him to go and fight, but she told him she did want him to go.

TEACHER: For what reason?

PUPIL: Because there had been so much rumor in the court about his love for the queen, and she thought Arthur had some suspicions himself.

TEACHER: Were her reasons for wanting him to go high or low?

PUPIL: Low.

TEACHER: A mere fear of gossip; that brings us to the question of the queen's character; all the way through what sort of a woman does she show herself to be?

PUPIL: I don't think she was at all an honest woman,—very deceitful, very faithless, she really had no love for the king, and she loved Launcelot,—I don't see why she married the king,—unless to be queen.

TEACHER: Evidently she is faithless to him now; how does her mind work, along just and noble lines or not?

PUPIL: No.

TEACHER: Does that come out in any other way?

PUPIL: After, when she is jealous of Elaine.

TEACHER: When she hears the news of the tournament, do you remember how she takes it?

PUPIL: She goes to her room and throws diamonds in the river.

TEACHER: The thing that hurts her most is what?

PUPIL: He wore Elaine's emblem.

TEACHER: If she really loved Launcelot herself, what would have hurt her most?

PUPIL: That he had been wounded.

TEACHER: And probably unto death; how does Elaine think of it?

PUPIL: Thinks only of him.

TEACHER: The difference between the two. In comparing Elaine with the queen, is there any other contrast?

PUPIL: Elaine is very simple, and the queen is—Elaine is not worldly-wise, is very innocent.

TEACHER: That comes out in what ways?

PUPIL: She doesn't know what love is; she had never been outside the castle; and she doesn't try to hide her love, and the queen tries to do all she can to hide it.

PUPIL: I don't think that is particularly against her, for she had to hide it.

TEACHER: That is true, and yet would Elaine have had the skill to hide her love whatever the situation was? Elaine was open and frank and above-board. Is there any man in the poem who is like that?

PUPIL: The king; there is a man like the queen, too.

TEACHER: Who is that?

PUPIL: The man who goes on the quest.

TEACHER: What is his name?

PUPIL: Gawain.

TEACHER: He shows what?

PUPIL: He is worldly-wise and polite, pleasing to see, but he is false, untrue to the king.

TEACHER: His lack of truth comes out.

PUPIL: Doesn't do what the king sends him to do.

TEACHER: What else does he do that seems underhand, or not quite honorable?

PUPIL: He gives the diamond to Elaine to give to Launcelot, and goes back and says he cannot find him.

PUPIL: Didn't ask to see the shield, and makes love to Elaine.

TEACHER: All the way through he is really not upright and true. Come back for a moment to Elaine, and her innocence and simplicity; how do other people treat Elaine?

PUPIL: Her father and brothers regard her as little girl, give her very much her own way; they call her wilful, but I don't think she is, I didn't see it in her actions.

TEACHER: In what other ways did they treat her as a child?

PUPIL: In giving her the diamond, they thought it ought not to be given to her but to the queen.

TEACHER: What else did they do that makes her feel uncomfortable when Launcelot first comes?

PUPIL: They talk about her in her presence with strangers.

TEACHER: The very point of being talked over in the presence of strangers is embarrassing to a girl who is old enough to feel that she isn't any longer a child. There are other little points that show that in the eyes of her family she was a little girl. So far as we have considered it, you see this poem is a composition of contrasted characters, a simple, frank, childlike girl is contrasted with a worldly-wise scheming woman, the queen. This courtly, gentlemanly, but not altogether honest and straightforward Gawain is contrasted with the simple and manly Arthur.

The next time, in finishing this poem, consider Launcelot, whether he is an out and out scoundrel, or whether he is noble and manly at heart, etc., etc.

The field of English is rich in opportunities for judgment questions. It has often seemed to me, as I followed one class after another through a day's activities, that the English hour is the only one during the school day when pupils are ever allowed to have any ideas or judgments of their own. The English lesson is frequently an oasis of thought activity in a desert of fact. This may be due to the fact that English instruction has been emancipated in a sense from the thraldom of bookishness that still grips history instruction. Pupils in English are no longer compelled to study a book telling *about* every masterpiece in the English language: instead, they are expected to know intimately a very few good things—and in the process of knowing them other forms of intellectual activity besides verbal memory are called into exercise. Such freedom would be just as possible for history instruction, if the makers of texts and of courses of study would get away from that stupendous sequence of political events from 4000 B. C. to the present, and see the truly educative importance of living for a time with a few big human events.

IV. *Applying the measure of oral expression.*

Oral expression does not show the improvement it would be natural to expect from the lesser number of questions. There is everywhere too much talking done by the teacher to permit of much oral expression from the pupils: and in many subjects there is too close adherence to the repetition of text to permit of any degree of *freedom* or originality in expression.

We have been taught to believe that English lessons illustrate the highest standards available in amount, freedom, and quality of oral expression. Teachers of history and science and mathematics are everywhere urged to give thought to the oral expression of their pupils, but they are never held to quite the same standards of attainment as those set for the English teachers. The conclusions that have been forced upon me in the series of studies here recorded are substantially that in the matter of freedom of expression, correct diction, and distinct enunciation, lessons in English, on the whole, show little improvement in practice over other subjects.

The aim that is most apparent in English lessons is the "appreciation" aim. It seems to be a well-established ideal in English instruction, showing results, in most of the classes under observation, that are most gratifying. The form and the fullness of expression, however, seem not to be factors of any considerable importance. "Give me the thought, Mary: never mind the words: now listen while *I* word it for you"—this is the spirit—though not in so many words—that finds reflection in many class rooms. It is part of the mistaken conception of education that it is possible to teach children to be self-reliant by doing things for them.

Sometimes the failure to elicit good expression is due to the fact that teachers have adopted the lawyers' practice of embodying in the phraseology of their questions the substance of the subject under discussion, allowing the pupils to merely punctuate the story now and then with monosyllabic answers. Where such practices exist, it makes only slight difference to the cause of instruction whether there are two hundred questions or one hundred.

Sometimes the failure to elicit good expression is due to the fact that while teachers may ask fairly good questions, they are satisfied with insufficient answers. They are content to pick a portion of an answer here, and a portion there, without requiring pupils to collect and round out these tidbits into a completed thought. Pupils soon learn when a teacher is satisfied with fragmentary answers.

This form of answer secured by picking here and there, makes a composite affair that may contribute to the uses of instruction or to its abuses, accordingly as it is treated. The exigencies of instruction demand for the "composite" answer a somewhat definite place in instruction because it is by means of accretions of fact here, and suggestion there, and hint from another source, that our knowledge of a subject is augmented. The composite answer may be used in purposeful ways; its abuse lies in allowing it to foster guessing processes and shiftless habits of thought. By way of illustration, I will quote a few paragraphs from the lesson comparing the old and the new ballads:

"Let us see about the spirit in which they were written, that is, the kind of qualities the people in those ballads showed, and the kind of qualities in human nature people of that day liked."

PUPIL: I think bravery.

TEACHER (*writing* bravery): Anything else? **BRAVERY.**

PUPIL: A hero and a villain.

TEACHER: Hero and villain; in other words, you take sides?

PUPIL: Yes.

TEACHER: What other qualities besides bravery?

PUPIL: Treachery, of the king, in the ballad of Johnie Armstrong.

TEACHER: Yes, and the hero shows what quality?

PUPIL: He believes in the king even when he is summoned before him.

TEACHER: Good faith on one side, and treachery on the other. Anything else?

PUPIL: Honor.

TEACHER: Honor, yes. (*Writes* honor.) **HONOR.**

PUPIL: A great deal of honor among themselves.

TEACHER: Loyalty to each other; and as regards their enemies, what? **LOYALTY.**

PUPIL: They used to fight for fun, and they had certain rules; they were not really angry, they had to keep certain rules.

TEACHER: In other words?

PUPIL: They couldn't do just as they wanted to.

TEACHER: There were rules of honor even toward your enemy, a sort of amateur spirit.

PUPIL: Courtesy to their enemies? **COURTESY.**

TEACHER: Courtesy,—and perhaps we might say this includes being true to the rules."

In this series of questions the words BRAVERY, HONOR, LOYALTY, COURTESY, constituted a composite answer for the original question. The words were written on the board as fast as they were rescued from the debris of incorrect or partly correct answers of the pupils who were thinking aloud. The fact that they were thus collected and visualized gave the series of questions a value that would have been lacking without a summary. The best summary is the one made by the pupils in answer to the final question " Now tell me in complete form the qualities in human nature which people of that day liked." Answer: Bravery, honor, loyalty, courtesy.

A series of What else? or What next? questions, without the final collection and expression by the pupils, is a waste of valuable time.

Sometimes the failure to elicit good expression is due to ambiguity in the phraseology of the question, or to the common habit of asking two questions at once, illustrations of which can be found in many of the lessons quoted.

V. *Little thought given to the needs of individuals.*

Here again, with the smaller number of questions there is *opportunity* for the needs of the individual students to be considered, but I have found no indication that the opportunity has been improved.

VI. *The class room the place for displaying knowledge.*

This criticism pertains as directly to the lessons with few questions as to those with many. The thought that we should make the class room a place for displaying knowledge is nowhere present in any aim of education, but it seems to be everywhere present in practice. It is inconceivable that teachers need to ask of sixteen-year-old pupils as many as one hundred and twenty-five questions in order to find out whether or not they have learned a five-page lesson. Why then do we fill a class period with treadmill work of this type?

VII. *Organization of subject matter.*

In the matter of organization of subject matter there seems to be very little difference between the lessons with many questions and those with few. Organization of new material and summarizing of results seem to be negligible factors in class-room work, except as the work is done by text-books and teachers. Wherever the book is the medium of instruction the organization incorporated on its pages constitutes, in a majority of cases, the basis of class work. There is rarely any attempt made to reconstruct subject matter in ways better suited to the needs of individual groups of students. It is the book first and always. All of that train of educational opportunity that accompanies the process of organizing subject matter and teaching pupils how to organize and to summarize is completely lost sight of in slavish adherence to the text-book. It is the type of education that concerns itself with teaching the book instead of teaching the children. The evil grows as pupils are made to depend more and more upon texts for instruction when they get into the higher grades of elementary school and into high school. At the very time when they should grow in the power to discriminate, to select and to apply what is vital to them in all the vast encyclopedia of fact presented to them, they are being stuffed with the masses of fact selected for them and arranged for them by some one else. Small wonder that we find so little knowledge well digested.

Facts have " relative values " according to the uses which they serve. It is part of the educative process to reveal values and to train pupils to the habit of measuring relative values.[1] This cannot be accomplished through the type of recitation that contains seventy-five or more questions testing verbal memory. Here we have a lesson on Charlemagne from Robinson's " History of Western Europe." The lesson is " heard " according to the organization by topics as found on the margin of the text and the number of questions per topic is roughly indicated here:

Charlemagne's personal appearance	3
His education	2
The Charlemagne of romance	3
Charlemagne's idea of a great Christian Empire	4
Conquest of Saxons	6
Conversion of Saxons	3
Foundation of towns in Northern Germany	6
Charlemagne becomes king of the Lombards	2
Incorporation of Aquitaine and Bavaria	6
Charlemagne's foreign policy	5
Marches and Margraves	4
Charlemagne in Spain	3
Charlemagne crowned Emperor	1
Charlemagne merited his title	4
Continuity of the Roman Empire	6
Charlemagne's system of government	4
"Missi Dominici"	2
Dark elements before Charlemagne	6
Elements of learning preserved by Church	10
Establishment of schools	8

[1] See McMurry, How to Study and Teaching How to Study.

The recitation of this lesson proceeded with monotonous regularity, all facts evidently being regarded as of equal value. The fact that Charlemagne's nose was "somewhat above the common size" was received with the same degree of emphasis as the truly significant fact of his power as an organizer. Such a lesson might well be illustrated thus, one vertical mark representing each of the questions indicated above.

Fig. 1

In such a lesson everything proceeds on a dead level of uniformity; there is no hint of relative values; there are no mounts of prominence; there is no summarizing of the few leading facts to be carried over as the basis for the next day's work. If a lesson is ever worth teaching it is sure to contain certain facts that are more important than others, facts that may be designated as mounts of prominence. Around each of these mounts a certain accumulation of preliminary or explanatory instruction must of necessity centre in order to raise the essentials to eminence. The author of the chapter in question suggests on page 79 a plan of organization which seemed to be wholly lost sight of in the recitation. He says, "We shall consider him (Charlemagne) first as a conqueror, then as an organizer and creator of governmental institutions, and lastly as a promoter of culture and enlightenment."[1] These three values combined with the preliminary ones regarding his appearance and personality would easily constitute four mounts of prominence for the lesson around which all explanatory material would naturally group itself in relative degrees of importance.

To carry a homely illustration further, such a lesson might be presented thus:

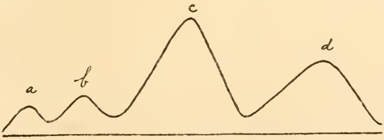

Fig. 2

The four mounts of prominence suggested by the author are represented by a, b, c, d. A certain number of questions upon

[1] Robinson, History of Western Europe, p. 79.

minor facts are necessary to raise these significant facts to relative prominence, but this accomplished, they sink into insignificance and need no longer be retained in memory. A, b, c, d, are essentials; they bear a definite relation to each other and to the preceding work; they serve as basis for future work.

It is not sufficient that a, b, c, d, be illuminated for an instant by the searchlight of the teacher's intelligence; they must be appreciated by the pupils; they must be sought for and found by them as far as possible, and fixed by repetition at the close of the hour.

This matter of summarizing essentials at the close of an hour is a very necessary step towards ability to organize new subject matter when one approaches it alone and unaided. I have not found it to be a general feature of class instruction in our schools to expect pupils to make summaries of work. In only three of the one hundred lessons observed were there any attempts to summarize at the close of the hour; in several more there was at the beginning of an hour a gathering up of main facts of a preceding lesson. This latter method is rarely successful unless the summary has been well made at the close of the former lesson, for a summary, to be potent, should come when all factors are fresh in memory. Frequently the summary is made by the teacher at the beginning of the hour, as in the following:

TEACHER: Yesterday, in your work, we took up the results of the Persian wars, and we saw what the result was to Persia, how they had been limited in their power; and we saw the result to Greece, how they had won the victories, and how they were getting to be pretty confident of their own powers; and we saw how Athens had seen her opportunity, and how she could build up her power. We saw also that while she was absolutely destroyed, her buildings all gone, she still felt she had a city, and she saw the possibility of bringing that back into power. Who was leading her at that moment?

The pupils could have collected a summary of the chief results of the Persian wars at the close of their preceding lesson just as well as the teacher, if they had been expected to do so. Then the call to attention on being asked to repeat it at the beginning of this hour would have been a more effective stimulus than the one that greeted them when the teacher began to summarize for them.

Our teachers seem to feel that pupils cannot do things well enough to be trusted with the most important activities of a lesson. The consequence is that the over-zealous teacher invariably steps into the breach and performs the work himself. The stenographic lessons substantiate this statement at one point and another. It certainly is easier for the teacher to give a summary than to wait for the pupils to work it out, and if the *possession* of that summary is the one thing desired it would be quite right to hand down summaries from one generation to another just as we hand down books and manuscripts. But the point is that the summary does not amount to a row of pins except as the *result* of a *process* of *intellectual activity.*

What should we think of a teacher of manual work who said to his boys, "The hardest thing you have to do to-day is to make a perfect mortise and tenon joint. It will take you too long to do it, so I will make it for you, while you look on." Yet here is the text-book teacher who says, "The most important thing just here is a good summary; I want you to take it down in your note books as I give it to you and learn it for to-morrow."

So far as our data furnish evidence, the paramount conclusions regarding our ability to measure the efficiency of instruction by the number of questions are these:

A LARGE NUMBER OF QUESTIONS IS AN INDISPUTABLE INDEX OF BAD TEACHING (except in some modern language and developmental lessons).

A SMALL NUMBER OF QUESTIONS DOES NOT NECESSARILY INDICATE GOOD TEACHING.

Efficiency of instruction involves good questioning; good questioning is synonymous with the use of good questions. That we do not find good questions identified with instruction to any appreciable extent even in lessons reflecting a relatively small number of questions, may find its explanation in any one, or all, of the following conditions: (a) The absence of clearly defined purposes for instruction; (b) failure to appreciate the function of the question as a medium of instruction; (c) dominance of the text-book; (d) the feeling of indifference to the methods of the recitation in colleges and training schools for teachers; (e) the almost total neglect of supervision of instruction in secondary schools.

PART III

EFFICIENCY OF INSTRUCTION AS MEASURED BY THE QUALITY OF THE QUESTIONS

What do we mean when we talk about the quality of a question? What is a good question? Since the number of questions cannot be the full measure of efficiency in questioning, what other tests must be applied to determine efficiency? "If I always ask Why questions and How questions, shall I be a better teacher than if I ask When and Where and What questions?" asks one teacher who has turned the searchlight of investigation upon his own methods of instruction.

The attempt to deduce a formula for guidance in phrasing questions or to write out a prescription for the cure of all the evils of questioning would be as futile as to reduce the ideal of instruction to a sentence, or the philosophy of education to a maxim.

It is impossible to say that a Why question will always be a better one than a When or a What question, because there are other elements besides form that enter into the consideration of quality or worth. I presume there is little doubt but that the best question so far as motivation is concerned is the one a person asks when he really wishes to know something—the kind that comes spontaneously when he seeks information to round out and promote thought at just the point where help is needed. In the world outside the class room, in all phases of social intercourse, the one who wishes concrete information asks questions to secure it. In the relationship of adults with adults, adults and children, and children with each other, the one who wishes to learn is the questioner. A child questions persistently in his search for knowledge and his questions are well-aimed and purposeful forces for education.

Within a few months, I have chanced to hear two conversations carried on in front of a window through which students could be seen modeling in clay. In one instance the conversation between child and father ran thus: "What are they doing down there, daddy?" "They are modeling in clay." "What are they doing that for?" "Well, they want to learn how to make a statue that looks like somebody." "Is the somebody there?" "Yes, he is probably sitting in the corner." "What are they making it of?" "Of clay. We will walk around on 116th Street, if you like, and I will show you a statue that was made by a sculptor who began it just as these students are making that one." We can picture the child's introduction to Daniel French's Alma Mater in front of the Columbia Library and the unfolding of his intelligence regarding its construction as the boy plied his questions, and received stimulating answers. A few days later, standing before the same window another child asked practically the same initial question of his nurse, who gave the response, "O, making mud pies, I guess." "What are those big people making mud pies for, Mary?" "O, don't bother me now with any more questions." Whereupon the child turned his attention and his activities to teasing his dog. In both cases the questions were "natural," that is, the would-be learners were the questioners. The educational opportunity was the same: in the first instance the learner's initiative was judiciously guided; in the other it was killed outright.

These situations are frequently paralleled in class rooms. The natural question has the richest functioning values but it must be admitted that it cannot find full freedom in the class room because of the complexity of the educational problem when a group of children is to be instructed. It is equally true that the natural question does not need to be barred completely from the class room; there is plenty of opportunity to entertain good natural questions, and to turn them to account as important assets in instruction. A sensible natural question is a valuable return for instruction, for it is an indication that the pupil's mind is operating "under its own steam"; the momentum once secured, the teacher needs to exercise only the guiding hand.

As soon as the question is taken over by the teacher in the class room, it ceases to be "natural" and assumes a "formal" value. The teacher does not ask the questions because he really desires the forthcoming information as so much concrete knowledge; he knows that already. The pupil, in answering, realizes this and he tells you what he thinks you want him to tell. The teacher seeks information, but in a different sense. He asks questions to see if his pupil knows, or to help him to know, or to secure a clue for the direction of the next question. Only in this interpretation is the information of any value to the questioner. In this sense the motive of the formal question is wholly different from that of the natural question.

In kindergarten and lower grades of elementary school where instruction is more nearly natural, and where class work centers about the interests of the children, the questioning activity is likely to be more natural; that is, both teacher and pupils, while working over some vital problem, ask questions whose answers are really wanted. In this way the question and answer recitation may become a true conversation hour, with pupils asking and pupils and teacher answering, or teacher asking and pupils answering, the teacher the while skillfully guiding the class towards a desired goal.

Such an ideal use of the question and answer recitation is just as much to be desired for upper grades of elementary school, for high school, and for college instruction; that it does not now exist in the higher schools is due in part to the differences in motive of instruction. It may be just as desirable that education in upper grades and increasingly in high school and college should center about the real interests of the learners, but that motive has not yet been generally accepted. Instruction in the higher schools is still far more formal than it is in the kindergarten and elementary school. The questioning reflects it and we find teachers generally using the question in the formal way as an implement of instruction.

Since it is not the purpose of this study to promulgate an educational theory of instruction for higher schools, but rather to stand upon the ideals that are generally accepted and to measure the current practice of the better class of teachers by these established standards, our chief concern is with the formal question rather than the natural question. Hence, in considering further the worth of a question, it is the worth of the formal question that I have in mind.

How, then, can we judge the worth or the quality of a question? In estimating the quality of a formal question, I should say there are at least three elements we need to know: (1) the degree of reflection it stimulates; (2) its adaptability to the experience and the work of the pupil; (3) its "motor-power" in drawing forth a well rounded thought and adequate expression for the same.

I. *A good question should stimulate reflection.*

Every question provokes thought if it produces any sort of accurate answer, but not every question stimulates reflection. Even the extent and the intensity of reflection may vary widely and should vary somewhat in every lesson so that all questions will not operate in the same groove nor keep in motion the same processes of thought activity. As we have already observed, part of the difficulty with the present-day practice is that so many questions furnish exercise for verbal memory alone. Associative memory, even, is neglected along with other processes of discrimination, association and judgment.

I think I can best illustrate my meaning regarding the extent and intensity of reflection by comparison of a few sets of questions:

When was the battle of Waterloo fought?
What is a polygon?
What is the exception in the declension of dea?
What kings of England led crusades?
How many times is the number six contained in sixty?
Where is the cotton belt?

For these questions you either know or you do not know the answers. No amount of reflection will produce the fact if it is not already in memory. The question stimulates memory and in that sense it provokes thought, but the element of reflection is not present to any appreciable degree, as it is in the following group:

What qualities in the character of Brutus are brought home to us in the last scene of Julius Caesar?
What color in drapery will look best with this wall paper?
What is there about a gray squirrel that reminds you of a rat?
Why do you like the Lady of the Lake better than Marmion?
Do you consider that an apology was called for?

These questions cannot be answered from memory alone. The associations, discriminations, and individual judgments must be made by the one who is questioned, using as his basis certain facts in his possession. A degree of reflection is called for, although the intensity of reflection is not especially marked.

With the following group the intensity of reflection is more pronounced:

How did religion promote the growth of the Arabic and Carolingian Empires respectively?

To what extent did Jefferson and the early American statesmen owe their ideas on education to Rousseau?

Place in your note-book as heading "Mason-and-Dixon's Line" and enter all fitting information as you proceed.

What various forms of self-activity can you discover among the children of any class room?

What special qualifications in addition to knowledge of subject matter, seem to you desirable for the teacher of history in the secondary school?

Contrast the treatment of nature in Elizabethan literature, giving references to specific authors by way of concrete illustration.

Trace changes in the concept "tyrant."

In considering the Rodentiae, what are the chief points of difference between the Sciurus Carolinensis and the Mus Musculus?

Any one of the last set of questions furnishes food for considerable reflection even for adults. The ability to cope with problems such as these and to respond to them adequately is a resultant of the educative process. There must be some questions stimulating reflection introduced into daily class exercises if our pupils are ever to grow in ability to reflect.

II. *A good question should be adapted to the experience of the pupils.*

One element to be considered in making a fair estimate of the question is its adaptability to the experiences of the one questioned. By way of illustration of this point, I will quote a class-room experience. The following question was proposed to a group of college students for over-night reflection: "Is the *number* of questions asked by the teacher a test of good teaching?"

It seemed to be a good question for mature and thoughtful people preparing for the teaching profession—a question that would plough rather deeply into experience and promote some serious reflection. As one section of the class assembled next day, the question was repeated and the following answers straggled in: "I don't think so." "Yes, I believe it is." "Too many questions show bad teaching." "Sometimes teachers do not ask questions enough," etc., sufficient to show that the question had not gripped the thought life of any member of the class. What is the inference regarding the nature of the question? It was designed to stimulate reflection but it failed of its accomplishment. Instead of getting into the ground it failed even to scratch the surface.

Another section of the class met later in the day and the question was again presented. A student took the initiative promptly, saying: "I wish to discuss that question; I have thought of it for some time and I have reached these conclusions:

First: the *number* of questions is not a criterion of good or bad teaching.
Second: the mere fact of number does not give sufficient data upon which to base a decision.
Third: the quality of the leading questions must be known before even the number can be criticized."

Everyone was ready for the discussion which was generally thoughtful and profitable. The question had ploughed into the ground quite thoroughly and stirred up processes of thought activity that did not cease even with the dismissal of the class. There was no doubt regarding the value of the question for that group.

The explanation of the different attitude of the two groups was found in the fact that the first section consisted of college seniors who had never taught and they had little or nothing to draw upon in the way of experience in such matters, while the second section included men and women in the forefront of their profession. This is an instance where one question had to be judged both a poor question and a good one: poor where it was not adapted to the group, and good where it fitted exactly into experience.

A question, then, cannot be tested as an intellectual thing apart from the group to which it is addressed: to be a good question it must be rightly related to experience in order to promote profitable reflection.

III. *A good question should draw forth a well rounded thought.*

A third element in estimating the worth of a question is its "motor-power" in drawing forth a complete thought. The expression of the thought should be commensurate with the completeness of the thought.

A lecturer may propose a question to a group of adults with such effect that some of his hearers will carry it away with them and live with it for days or weeks without giving expression to the thoughts aroused. This may be considered the highest type of question if it stimulates the adult mind to continued activity. But with children in the formative period we cannot expect sustained concentration without frequent responses. Hence we ask simple questions and compel prompt answers in order to keep attention focused upon the subject in hand. When we ask a question calling for an association of ideas, we have no way of measuring the potency of the question except by the answer. The answer must fully reflect the result of the association called for or else we are in danger of fostering superficiality where we aim to develop accuracy and thoroughness.

Careless and inaccurate answers are frequently accepted. This is sometimes due to ambiguity in the phraseology of the question; sometimes to the fact that a question is too difficult to elicit good mental reactions, and sometimes to a teacher's failure to hold the question in attention long enough for thought processes to be completed.

In illustration of the first type of question that must naturally fail to evoke satisfactory expression from pupils, I quote the following assortment of questions, each of which readily reveals its particular fault in form:

What was the greatest achievement of Charlemagne? What title did the Pope confer upon him? (*Double question.*)

What was the theorem that preceded the one that Mary gave last? (*Ambiguous.*)

Don't you think the language was hard to understand?

Does the story end well with the lovers all married at the end? (*Answer embodied in the question.*)

The Saxons occupied all that country between Cologne and the Elbe and north to Bremen. They had no towns or roads and very few possessions so they could move easily and hide themselves away easily. Who conquered them?

There was a substance in the glass and I added something to it, changing its color to ——?

By way of illustration of the point that a question is sometimes too difficult to elicit good mental reactions, I will quote from a lesson in breadmaking:

"When I put the bread to rise this morning, I wanted it to rise quickly. How did I accomplish it?"

The answer came, "You put it in a place between 70 and 90 degrees, for it to rise." (A good answer.)

Then the teacher asked, "Tell me *all* about it, the setting and rising."

Follow, if you will, the reactions of the group to this question keeping in mind that we are expecting to learn *all* about the setting and rising of bread.

TEACHER: Tell me all about it, the setting and rising.

EDNA: Yeast is one cell plant, that feeds on moisture,—feeds on sugar, and when it reproduces it gives off carbon dioxide gas—

TEACHER: Is she really answering the question? Don't tell me everything you know about yeast,—just answer the question. What was the question, class?

PUPILS: If you wanted it to rise quickly, what should you do?

TEACHER: Did the fact that the yeast reproduced, or budded, have anything to do with this, or did she tell us that too soon? Begin again, Edna.

EDNA: Put in a place between 70 and 90 degrees, because otherwise it wouldn't rise,—yeast wouldn't act.

TEACHER: How does the yeast make the bread rise?

ELAINE: When it grows it gives off carbon dioxide gas, and that makes the bread rise, etc.

The question "Tell me *all* about it, the setting and the rising" was presumably designed to provoke a summary of the processes, both practical and scientific, in the making of bread. It failed to draw a complete thought. At least part of the difficulty in this case was due to the fact that the scope of the question was too great. The pupils had not sufficient power of organization to give spontaneously a full answer to a question involving so many factors. This question is on a par with "Compare Cooper with Scott"; "Compare nitrogen with oxygen"; "Compare the American government with the English,"—types of all-embracing questions that teachers do sometimes ask of a pupil, apparently expecting satisfactory answers to be gathered up in his thought world and expressed in suitable form within thirty seconds.

The nature of the answer that the teacher draws in response to a question of this sort should be in itself sufficient rebuke, the bread lesson to wit. The question, "Compare Cooper with Scott," once brought a few fragmentary answers thus: "Both were writers of stories—yarns—one was an Englishman and one an American. Scott wrote about black knights and Cooper wrote about red Indians. Cooper told the truth about his Indians, but Scott did not about the knights." Five or six different pupils contributed to this "composite" answer. The fragments in themselves were not objectionable but the answers passed as a satisfactory "comparison of Cooper and Scott," and each one of the five pupils thought he had answered it. It is through such processes as these that we pauperize the intellects of normal and healthy-minded children who should be questioned according to their capacity and then held to the completion of the thought called for.

In the same lesson on breadmaking there are two questions that seem to be reasonably good: "What does the yeast do when it doesn't get any sugar?" and "If yeast doesn't have any sugar to feed upon, will it make bread rise?" Considered apart from their answers we should say that they would stimulate a degree of reflection and that they are adapted to the work of high school girls studying the processes of breadmaking. Now read them in the context.

TEACHER: Sometimes we use no sugar; we can make it simply water, flour, salt and yeast; what does the yeast do when it doesn't get any sugar?

PUPIL: Moisture.

TEACHER: If yeast doesn't have sugar to feed upon, will it make bread rise?

PUPIL: Yes.

TEACHER: How so?

PUPIL: Warmth.

Those questions were well designed but they failed of fruition when the teacher accepted "moisture" as an answer to the first and "warmth" for the third. The answers certainly did not reveal completeness of thought. I believe the girls had sufficient experience to answer accurately and fully, but these haphazard words were accepted and consequently the questions did not function as they should in drawing forth completed thoughts. In this instance the failure of the question to do its work was not due to the phraseology of the question nor to a degree of comprehensiveness that was beyond them but rather to the failure of the teacher to stay with her question until the pupils gave the time and attention necessary to round out the thought.

In all these illustrations the answers were inaccurate or incomplete; the reason in each case was close at hand in the nature of the question or in its treatment in the hands of the teacher. I believe therefore that we have not the full measure of the efficiency of a question until we know the answer that is given to it. The answer should give adequate expression of a well rounded thought.

With the above mentioned criteria of the worth of a question or series of questions as a guide, I will gather up from the various manuscripts some of the questions that approximate more or less closely the type of question that contributes to efficient instruction. If they do not appear to the reader to possess any special value kindly consider that I am quoting the best I can find.

There are about thirty natural questions in the total of two thousand in the stenographic reports. Some of them were asked by the teachers when they wished to learn whether or not note books were ready, etc. A few were asked by the pupils when they really wished to clear up a doubtful point, as with the following:

PUPIL: Can you have rhyme in blank verse?

PUPIL: Wordsworth was not trying to imitate the old ballads was he?

PUPIL: Can't the ammonia vapor turn back into a liquid?

TEACHER: That is another reasonable question: Can't all the ammonia vapor turn back into a liquid as it cools off? The only trouble with that is, I shall have to say it can't. In order to liquify ammonia gas you have to subject it to a little pressure and very low temperature.

PUPIL: Isn't it lighter than air?

TEACHER: Yes, it is lighter.

PUPIL: The pressure of the air on the outside is greater than the ammonia gas.

TEACHER: Yes, but supposing the ammonia gas was under the same pressure as the atmosphere, what sort of thing would happen?

PUPIL: Would the gas dissolve?

TEACHER: That is precisely what the gas does.

The two lessons referred to on page 48 as offering something of value in the nature of certain questions deserve some consideration here. Lesson III is quoted at length, beginning on page 33. Lesson V is printed in full in the Appendix.

The introductory question in the portion of Lesson III quoted on page 33 gets away from the text-book and yet it is related to the work in hand. The idea of sequels has been suggested. The teacher asks:

"What do you think of sequels as a rule in the writing of books? (*No answer.*)

The teacher endeavors to make the association more personal by changing the form of her question.

"Are any of your favorite stories written with sequels?" (*No answer.*)

Still more personal,

"Mary, do you recall a story with a sequel?" (Mary admits she does not know what a sequel is.)

"Mary is bothered by the word sequel; who can help her out? What is a sequel?"

PUPIL: A sequel is a book that has the same characters in, and comes after the other one.

TEACHER: Did you get enough to understand it? George says a sequel is a book that has the same characters in and comes after the first story. Now, do you know any sequel; have you read a book with a sequel?"

Now that the obscurity regarding the meaning of "sequel" is cleared away there is profitable reflection and there is fullness of expression. (See page 33.)

From the Marmion lesson in the Appendix the first question, although primarily a memory question, requires a degree of reflection in selecting from memory the parts to be given "omitting all unnecessary details." Some of the remaining questions intended to stimulate reflection are the following:

Name all the things that you can think of in Marmion that are characteristic of the Middle Ages.

What were the ideals of the knights of that period?

Have you read stories of other knights besides Marmion?

Who is the most interesting knight you have ever read about?

Do you think Marmion was a true knight?

Do you consider Marmion the hero of the poem?

In mathematics work the type of question that stimulates reflection is illustrated in the algebra lesson reported in the TEACHERS COLLEGE RECORD. It is a development lesson upon the use of graphs in solution of simultaneous equations. A short block of questions is inadequate to show anything of content values for a developmental lesson, but they may serve to show that the pupils are expected to make careful discriminations and render decisions at each step of the development and its application.

TEACHER: If I should take $x = 2\frac{1}{4}$, could you find a pair of values, Miss C.?

PUPIL: Yes, $y = 2\frac{3}{4}$.

TEACHER: Will you represent the pair for me, $x = 2\frac{1}{4}$, $y = 2\frac{3}{4}$; where is $y = 2\frac{3}{4}$?

PUPIL: I should say about the same place. (*At the board.*)

TEACHER: Let me see where you think that place is.

PUPIL: How did this go (referring to a point previously placed)—out this way?

TEACHER: Yes.

PUPIL: $x = 2\frac{1}{4}$ would be about here.

TEACHER: That is right, thank you, etc.

Some single questions selected at random form the stenographic reports to illustrate a measure of reflection are the following:

TEACHER: Turn to the next ballad,—Lady Clare,—would that have pleased the old ballad writers?

PUPIL: I think it would have; it is just the kind of love story they liked,—it all turned out well.

TEACHER: What do you think sterling qualities of mind means here? (Answer in full on page 60.)

TEACHER: How does the next step verify that?

PUPIL: It turned the litmus from red to blue.

TEACHER: What quality goes with timidity as a rule?

PUPIL: Shyness.

TEACHER: Which do you think had the more military subject (for his writings) Thucydides or Xenophon?

TEACHER: Was it more real?

TEACHER: Was it worth while?

TEACHER: What quality that we mentioned does that illustrate?

TEACHER: How did it make the Greeks feel to conquer the Persians?

PUPIL: Very proud.

TEACHER: Very proud. There is a better word than that.

PUPIL: Vain.

TEACHER: I think I should not say vain.

PUPIL: Satisfied.

TEACHER: Isn't there a better expression?

PUPIL: Independent.

TEACHER: That is good, independent, but there is still a better one.

PUPIL: Self-confident.

TEACHER: That is just what I wanted—self-confident.

TEACHER: Is Lord Ullin's Daughter the kind of story you think would appeal to ancient writers?

PUPIL: It seems so; this one was about an elopement; they seem to write that kind of story.

TEACHER: Now was that something to be desired that Europe should be saved from Mohammedanism?

If I collected all the questions stimulating reflection I might have between two and three hundred from the total of two thousand, but a large number of them would be the kind represented by "What do you think, John?" "What other quality, Mary?" "Have you a criticism on that point, Margaret?"

Of the type of good question that compels association of ideas by calling for a comparison of two things there are only twenty in the entire group, ten of the twenty in one English lesson (the lesson on comparison of old and new ballads). Teachers are evidently doing little to invite or to compel direct associations. Of the type of question that calls for the degree of intensity of reflection demanded by College Entrance and Regents' questions, I find very few indeed. For the best of these see the Marmion lesson in the Appendix, and the scattered English lessons. No wonder that an examination hour becomes an ordeal, if it calls into use abilities that have had *no* exercise in class work.

Of memory questions I have made no mention. Pure memory questions are good questions to use occasionally, but the element of memory is included in all better questions. Why then ask a half dozen pure memory questions when one better question can be made to embody memory and at the same time call for association in memory, and some exercise of judgment?

If teachers would embody in their scheme for the presentation of every lesson a very few thought-provoking questions (not more than six or eight probably),—questions based on the lesson and calling for associations and discriminations and weighing of values,—they would of necessity embody the salient facts of the lesson. It would not be necessary to "hear" the facts, paragraph after paragraph.

The best part of a lesson plan is its backbone of questions (unfortunately not often included in the plan). If they are good questions they will incorporate teacher's aims and pupils' aims, ultimate aims and immediate aims. If all the rest of the plan is perfect and its backbone of questions is weak, little need be expected for efficiency in instruction.

It is difficult to get teachers to work out a few questions for the backbone of a lesson, for the reason that it is much easier for them to ask a number of questions than it is to organize subject matter and definitely determine the mounts of prominence for any lesson.

I believe that the remedy for many of the present evils of instruction lies in the improvement of our methods of questioning.

The aims of any school for the education of the streams of pupils passing through its doors year after year must be measured by the kind of work carried on in its individual classrooms.

There are established ideals of education for secondary schools and there are established ideals for the conduct of the recitation. Even if these ideals are not wholly in accord with the most advanced theories guiding the practice of elementary schools, they are nevertheless worthy ideals. Furthermore, they are possible of realization.

A fairly characteristic study of secondary class-room practice shows us that the highest aims of education and the highest ideals of instruction are not in evidence to any appreciable extent. They are reserved apparently for catalogue embellishment and for convention oratory. Who is responsible for the chasm that exists between aims and practices in these schools? I believe the responsibility must first of all be shouldered by the supervising officer, whether he is the superintendent in a small system, or the principal in a large system, or the specially appointed supervisor. There must be unity of purpose first of all: then there must be supervision of instruction.

No school system would for an instant allow an inexperienced clerk to manage its financial affairs without supervision—but it does frequently happen that novices in the teaching profession, fresh from college, are permitted to undertake the realization of the educational aims of the school, through the medium of

Latin, English, or history, with no professional preparation and little or no class-room supervision. If the energies of superintendent or principal are consumed by the administrative duties of a school or system, there should be another officer of equal or superior rank to devote himself exclusively to supervision of instruction.

In the matter of questioning alone, a supervisor could accomplish much for instruction in a very short time if he did nothing more than to insist upon introducing into the plan of every lesson a short series of related questions calling for reflection. The results that might reasonably be expected are substantially these: Where six or eight purposeful questions are asked and adequately answered, the number of questions will be reduced; the pace will become more normal; pupils will be forced to tie up their facts in profitable relations; the several questions will serve as high lights in the lesson; pupils will have practice in the habit of studying a lesson for the salient points; they will eventually grow into the habit of organizing subject matter for themselves. With such attainments as these we should have some *positive* factors to deal with in measuring efficiency of instruction, and a definite basis for further constructive work.

At present, there is serious need of intelligent study and careful supervision of the use of the question as a medium of instruction. Skillful supervision of questioning will of necessity force unification of aims, better organization of subject matter, more consistent methods of instruction, and more rational practice, for these all stand revealed in the teacher's questions.

APPENDIX

STENOGRAPHIC LESSON REPORT

English Lesson

Teacher: *Will someone give the story of Marmion, omitting all unnecessary details? Dorothy?*

Dorothy: Marmion was riding toward Scotland with his train; he was going there partly, I think, to delay the war Scotland was preparing for England, and partly to find out the cause of it; and as he rode along he came to Norham Castle, and there he stopped with his train, and they spent an evening there, and while he was there Sir William Heron asked him where the page was that had been with him the last time, or whether he was only a lady-love; and Marmion asked Sir William Heron where his wife was, and he said, in King James' Court, for ladies do not like to stay at home all the time; next morning they started out again, with the Palmer as a guide. In the meantime it tells about some nuns who were going to a monastery to try the case of a nun who had broken her vows. In the monastery there were three judges and this girl, who was dressed as a page, and who tried to hide a—sort of label—I don't know what to call it—that showed she had been in Marmion's train—

Teacher: *Can anyone supply the word?*

Pupil: It was Marmion's crest that she had on.

Dorothy: And one of the monks there took down her hair, and it was all beautiful round her pale face. She asked to be able to tell her own story, and she told how Marmion had come there and wooed her, and had taken her from the monastery and she rode as a horseboy in his train for three years, and then he met another girl whom he thought more fair, and had rich lands, and Constance was loved no more, and she was very sad at this, but Clare, who was the girl that Marmion loved now, had another lover whose name was Ralph De Wilton, and Marmion accuses De Wilton of treason, so that they come into the lists to fight, and Ralph De Wilton was overthrown, and Marmion would have married Clare, but Clare had fled to the monastery. In the meantime Constance was taken by a monk, who said he would take care of her, but who betrayed her and took her to the monastery, and she was built into the walls and left to die there, and the nuns went back to England, and on the way they were captured by a Scottish vessel and kept in Scotland, and then sent back in charge of Marmion. Then it goes on to tell about Marmion.

TEACHER: *That will do so far, Dorothy. Any criticism? Did she leave out any essential points?*

PUPIL: She left out the bundle of papers that Constance gave to the abbot.

TEACHER: *That comes later.*

PUPIL: Constance forged the letters.

TEACHER: *Yes, that is true.*

PUPIL: And wasn't one of those nuns Clare?

TEACHER: *Yes.*

PUPIL: And Castle Norham is on the borderline between Scotland and England.

TEACHER: *Yes. Go on from that point, and omit all details that are not necessary. Beatrice? She left Marmion having started from the Castle.*

BEATRICE: He started from the Castle, and after he left Norham Castle he arrived that evening at an inn where he and his retinue stayed. While he was there, at Norham Castle—he asked for a guide, and a Palmer was given, and they started off, and the Palmer guided him to this inn, and while they were there the Palmer cast gloomy looks over the party, and a young man was asked to sing, and he said he couldn't sing as well as Constant, as they called Constance de Beverley, the page. That night the host told a tale, and Marmion didn't like it,—it was, if you went to a certain castle, you met your enemy, and that night he could not rest, and one of his squires was sleeping in the hay in the barn, and he waked him and told him he had been thinking about this tale, and he wanted to go to this castle and see what would happen, and he went and met there a man with whom he fought, and when he came back it was found in the morning that another horse had been ridden, and one of the horses died.

TEACHER: *Carl?*

CARL: I don't think he went to a castle at all. The host told the story about the king of Scotland, and he went to find out—and Marmion went out, and the man, or rather the ghost as Marmion called it, was there.

TEACHER: *He was his worst enemy.*

PUPIL: Yes; and in the morning they blamed the Palmer for that, that he must have had something to do with it.

TEACHER: *Marion?*

MARION: When his enemy was going to kill him, he prayed to St. George, so his enemy didn't kill him.

TEACHER: *I am going to ask someone, just in a few words, to tell the main results of the story. Carlton, you tell.*

CARLTON: When Marmion went to the Court, he went to see King James, and he couldn't see him right off, and he sent him to Castle Tantallon, where Angus Douglas lived, and he stayed there several days, and when he left he wanted to shake hands with Douglas, but Douglas would not do it, and said that his castles and all his lands were his king's, but his hand was his own, and he never would shake with Marmion, and Marmion was very angry, and he said any messengers, no matter how mean, who were sent there by England, they were Douglas's equal, and if he said Marmion was not equal to any lord in Scotland, he lied, and Douglas said he should not get away without being punished for saying that, and he called to the guards to put up the drawbridge, but Marmion put the spurs to his horse, and got through the gateway and then went to England.

PUPIL: Went to James' Court first, and on his way back he stopped at this castle, and he came back with these nuns and took Clare away from them and kept her with him, and then they had the battle at Flodden Field, but before that he knew that Ralph De Wilton was the Palmer.

TEACHER: *That is not very clear; anyone clear that up? Edward?*

EDWARD: After he had left the castle where Douglas was, he noticed that the Palmer was not with them, and one man said he had seen the Palmer riding off in armor, and he wouldn't believe it, and Marmion knew who the Palmer was, and going on to Flodden Field Marmion gives the battle-cry, and starts off and leaves Clare in charge of two young knights, and charges to the head of the army and fights very bravely.

TEACHER: *A very few words.*

EDWARD: Marmion's horse comes back without a rider, and this young knight carries him back, and he is dying and asks for water, and Clare brings him some, and he asks about Constance, and she tells him that she is dead, and he says some words, "Charge, Chester—"

TEACHER: *What was that he said?*

PUPIL: "Charge, Chester, charge! On, Stanley, on!"

TEACHER: *There is another part that has been left out altogether.*

EDWARD: And then Ralph De Wilton goes in and fights very bravely, and gains back all his lands, and finally marries Clare.

TEACHER: *Margaret?*

MARGARET: He left out that the abbess had told Ralph De Wilton about the forged letters.

TEACHER: *Name all the things you can think of in Marmion that are characteristic of the Middle Ages.*

PUPIL: The feuds.

TEACHER: *What do you mean by that?*

PUPIL: The system of retainers belonging to the lands, and the lands belonging to the nobles and the nobles belonging to the king.

EDWARD: You could tell because when Marmion said that Ralph De Wilton had done something, they had a duel, which they would not do in these days; tournaments; and during the conversation you can tell it was ancient times—and they don't have Palmers now-a-days—and they fought with spears and shields.

TEACHER: *You spoke of the tournament; what thing was settled in that tournament between Ralph De Wilton and Marmion?*

PUPIL: Whether Ralph De Wilton had really committed treason against the king.

TEACHER: *Did they believe that a tournament could possibly settle a question of right and wrong?*

PUPIL: They thought that God would spare the one in the right.

TEACHER: *Any other things you can think of the author brought into this poem to show it was the Middle Ages?*

PUPIL: The castles he visited all along the road.

TEACHER: *Anything else?*

PUPIL: The drawbridges, and the way he was entertained at those castles.

PUPIL: And all around the castles they had high walls, and a body of water all around.

TEACHER: *Something else?*

PUPIL: You could tell by the kings of that time, James the IV, and Henry the VIII, and the Battle of Flodden Field.

TEACHER: *What things does Scott bring into this poem that make you feel that it is Middle Ages and warlike time? All these things you have mentioned, castles, tournaments, etc., show it wasn't that.*

PUPIL: They had a portcullis.

TEACHER: *The castles were well guarded.*

PUPIL: The way of travel in those days.

TEACHER: *And they had a guard, you remember, for protection. There was great danger for Marmion in going through that country. For whom was he constantly looking out, what people?*

PUPIL: The robbers on the borderland; if they were in England, they were not in Scottish territory, and if they were in Scotland, they were not on English territory.

TEACHER: *What other characteristics of the age have we, one you have not mentioned, very important?* (Refers to picture upon wall of class room.)

PUPILS: The monasteries and the monks.

TEACHER: *The influence the Church had at that time. Do you know what Church was in England at that time?*

PUPIL: Roman Catholic.

TEACHER: *Roman Catholic Church. What were the ideals of the knights of that period?*

PUPIL: They must be brave, fight well, ride well, and be faithful.

TEACHER: *Anything else?*

PUPIL: They must always be loyal to their king, and help anyone in trouble.

TEACHER: *These were the chief points. Have you read any stories of any other knights besides Marmion?*

PUPIL: Sir Launfal, Ivanhoe.

PUPIL: All the stories of the Round Table.

PUPIL: Parsifal.

TEACHER: *Does that belong to this period?*

PUPIL: A little earlier.

TEACHER: *Still, you have read about knights and their ideals; any other stories?*

PUPIL: Sir Nigel.

TEACHER: *Who is the most interesting knight you have read about?*

PUPIL: Ivanhoe.

TEACHER: *You liked that best? How many do?*

(Hands.)

TEACHER: *A good story of a very interesting knight. Do you think Marmion was a true knight?*

(Hands.)

PUPIL: I think he was as far as fighting and braveness were concerned, but when he put Clare in prison,—I don't think that showed a good spirit.

TEACHER: *Why did he put Clare in prison?*

PUPIL: I mean Constance—he wanted to marry Clare, and he put Constance in prison to get her out of the way.

TEACHER: *Did he put her in there expecting she would be killed?*

PUPIL: No.

TEACHER: *Your opinion, Arthur?*

ARTHUR: He was worse when he forged the letters.

TEACHER: *You think that was the greatest wrong that he did? How many agree?*

PUPILS: Yes.

TEACHER: *He simply felt that Constance would be taken care of in that monastery. Do you consider him the hero of the poem?*

PUPIL: I do, yes; because it is mostly about him.

TEACHER: *Well, you say he is a man guilty of treason, and he certainly didn't protect the weak,—not a hero in that respect.*

DOROTHY: I think the hero in a book ought to be a very good man, and I think the man Scott has in mind to be the hero is Ralph De Wilton.

TEACHER: *Your opinion, Bruce?*

BRUCE: I think Ralph De Wilton is the hero in a way,—I think Marmion is a sort of hero,—toward the end Marmion is, and Ralph De Wilton in the beginning.

TEACHER: *Which one triumphs in the end?*

PUPIL: I think Marmion,—I mean Ralph De Wilton.

TEACHER: *Your opinion, Carl?*

CARL: I think Marmion; he wasn't a hero through the book, but I think if he could have revived after he had been hurt, he would have been a good man; he was sorry when he heard about Constance.

TEACHER: *Ed?*

ED: I think he is, it is a sort of an English knight; I don't judge a man by whether he is good or not,—the chief man in the book.

PUPIL: It tells more about Marmion than Ralph De Wilton, but I don't think he is the hero.

TEACHER: *You consider Ralph De Wilton the hero?*

PUPIL: Yes.

TEACHER: *You think it was the times rather than the man himself?*

PUPILS: Yes.

TEACHER: *That is perfectly true; I must confess I think the story is a little weak in that point,—it is called Marmion, but the one who triumphs really is Ralph De Wilton.*

PUPIL: The most part of it is about Marmion.

TEACHER: *Yes.*

PUPIL: —So I think you could consider the book well named.

TEACHER: *That is perfectly true, but there is that other criticism that Marmion himself is not the one who triumphs; it is the overthrow, really, of Marmion, who represents the evil, and Ralph De Wilton the good. Someone spoke of the worst thing he did, which was treason; does anyone think that in that time forgery was rather out of harmony?*

PUPIL: I don't think he would have done it in anything else; I think he thought—that he knew Clare liked Ralph better than she did him. and she wanted to get him out of the way.

TEACHER: *The author was very consistent in putting his whole story in the Middle Ages, and that one point of forgery was rather a commercial point. What do you consider the real weakness in Marmion's character?*

PUPIL: He wanted to be so great himself; he wanted everything;—and Constance didn't have any lands and Clare did, so he wanted to marry her, and he forged the letters.

PUPIL: His weakness was in how he loved people.

TEACHER: *What do you mean exactly?*

PUPIL: At first he loved Constance, and Clare came along, and he liked her because she had lands.

TEACHER: *He really always loved Constance, didn't he?*

PUPIL: His pride and self-conceit,—and in the second place he thinks he is greater than Ralph De Wilton so Clare should like him better; he says: "I am this wonderful knight—."

TEACHER: *His conceit, his ambition is really the thing that proves his downfall. I asked you to select any stanzas that you considered particularly good on account of the color. Did you find one? The canto and the stanza? Dorothy?*

DOROTHY: Canto I, stanza I.

TEACHER: *Read it out loud.*

DOROTHY: "Along the bridge Lord Marmion rode,
Proudly his red-roan charger trode,
His helm hung at the saddle-bow;
Well by his visage you might know
He was a stalwart knight and keen,
And had in many a battle been;
The scar on his brown cheek reveal'd
A token true of Bosworth field;
His eyebrow dark, and eye of fire,
Show'd spirit proud, and prompt to ire;
Yet lines of thought upon his cheek
Did deep design and counsel speak,
His forehead, by his casque worn bare,
His thick moustache and curly hair,
Coal-black, and grizzled here and there,

But more through toil than age;
His square-turn'd joints, and strength of limb,
Show'd him no carpet knight so trim,
But in close fight a champion grim,
In camps a leader sage.''

TEACHER: *That is a very good description of Marmion there, but has it much color?*

DOROTHY: I think it has.

TEACHER: *What part?*

DOROTHY: His appearance, his face—

TEACHER: *Was bright?*

DOROTHY: No it was dark.

TEACHER: *Is that the color? I think that is a capital description, but I don't think there is much color in it.*

DOROTHY: I didn't find any stanza I thought was any better.

TEACHER: *Margaret?*

MARGARET: I took Canto IV, and stanza XXVIII.

TEACHER: *Just read that part of it that has a good deal of color in it.*

MARGARET: It is all through the stanza:

Nor mark'd they less, where in the air
A thousand streamers flaunted fair;
Various in shape, device and hue,
Green, sanguine, purple, red and blue,
Broad, narrow, swallow-tail'd, and square,
Scroll, pennon, pencil, bandrol, there
O'er the pavilion flew.
Highest and midmost was descried
The royal banner floating wide;
The staff, a pine tree, strong and straight,
Pitch'd deeply in a massive stone,
Which still in memory is shown,
Yet bent beneath the standard's weight
Whene'er the western wind unroll'd
With toil, the huge and cumbrous fold,
And gave to view the dazzling field
Where, in proud Scotland's royal shield,
The ruddy lion ramp'd in gold.

TEACHER: *A good deal of motion in that.*

MARGARET: And the color of all the different flags.

TEACHER: *There was a capital description right after the one you read, Dorothy, the trappings of the horses—*

PUPIL: Yes, I think it was light blue.

TEACHER: *Any stanza you found with a great deal of action; where would you look to find a stanza with a great deal of action?*

PUPIL: At the end of the book.

TEACHER: *What was that?*

PUPIL: Flodden Field.

TEACHER: *Anyone find a good stanza there? Margaret?*

MARGARET: There was a good deal of action where Marmion—

TEACHER: *There was a good deal—*

PUPIL: Where he dashes over the drawbridge.

TEACHER: *Yes; any in the battle? Carlton? Turn to the class and read it aloud.*

CARLTON: At length the freshening western blast
Aside the shroud of battle cast;
And first, the ridge of mingled spears
Above the brightening cloud appears;
And in the smoke the pennons flew,
As in the storm the white sea-mew.
Then mark'd they, dashing broad and far,
The broken billows of the war,
And plumed crests of chieftains brave,
Floating like foam upon the wave;
But naught distinct they see;
Wide raged the battle on the plain!
Spears shook, the falchions flash'd amain;
Fell England's arrow-flight like rain;
Crests rose, and stoop'd, and rose again,
Wild and disorderly.

TEACHER: *That is very good; and the next stanze, in the fight itself; how many noticed that?*

(Hands.)

TEACHER: *What passages in Marmion are quoted frequently, Anna?*

ANNA: I think where Marmion says good-bye to Douglas, and where Douglas is angry because Marmion tells him that he has lied.

TEACHER: *Why do you suppose that is so frequently selected to be put into readers?*

PUPIL: I think it has so much feeling and so much swing—

TEACHER: *It has feeling and swing—*

PUPIL: Yes.

TEACHER: *Any other reason? How many can just see those two men, Douglas and Marmion, pitted against each other? Any other?*

PUPIL: O, woman in our hours of ease,
Uncertain, coy, and hard to please,
And variable as the shade
By the light quivering aspen made;
When pain and anguish wring the brow,
A ministering angel thou!

TEACHER: *Do you believe that?*

PUPIL: No.

TEACHER: *I don't either; it may have been true at that time.*

PUPIL: There is another, where Constance says:
And come he slow, or come he fast,
It is but Death who comes at last.

TEACHER: *Another?*

MARGARET:

And darest thou then
To beard the lion in his den,
And Douglas in his hall?

TEACHER: *How many have read the Lady of the Lake?*

(Hands.)

TEACHERS..*Which do you like better, Marmion or the Lady of the Lake?*

ED: The Lady of the Lake I read about two years ago in Miss A's class, and I can remember it, but this I couldn't remember in a couple of weeks.

TEACHER: *Dorothy?*

DOROTHY: I think I would know right away that I was reading Scott; the two books; he repeats himself the way Macaulay does; their heroes are something the same.

TEACHER: *It is Scott all the way through. What do you think are the strong points in Marmion?*

PUPIL: I don't know.

TEACHER: *How many feel that the descriptions are capital?*

(Hands.)

TEACHER: *I want everyone by Monday to have purchased a copy of Silas Marner,* etc., etc., *For to-morrow prepare the grammar on page,* etc., etc.